# OUTLINE OF BUSINESS

## PART II

POCKET LIBRARY OF THE
WORLD'S ESSENTIAL KNOWLEDGE

VOLUME X

# OUTLINE OF BUSINESS

## PART II

*By* GEORGE ROWLAND COLLINS,
M.A., M.B.A.
PROFESSOR OF MARKETING AND ASSISTANT DEAN OF THE
SCHOOL OF COMMERCE, ACCOUNTS, AND FINANCE,
NEW YORK UNIVERSITY

FUNK & WAGNALLS COMPANY
NEW YORK *and* LONDON

COPYRIGHT, 1929, BY
FUNK & WAGNALLS COMPANY
[Printed in the United States of America]

Copyright Under the Articles of the Copyright Convention
of the Pan-American Republics and the
United States, August 11, 1910.

## CONTENTS

### THE OUTLINE OF BUSINESS—PART II


| | PAGE |
|---|---|
| VIII—The Rôle of the Technical Expert | 7 |
| IX—The Rôle of the Lender | 30 |
| X—The Rôle of the Consumer | 54 |
| XI—The Rôle of the Government | 75 |
| XII—Manufacturing | 99 |
| XIII—Marketing | 133 |
| XIV—Financing | 171 |
| XV—To-morrow and To-morrow | 196 |
| Notes to All Chapters | 219 |

# OUTLINE OF BUSINESS

## PART II

## VIII

### THE RÔLE OF THE TECHNICAL EXPERT

THERE is nothing summarily new in the idea of the importance of the technical expert in the whole process of making money-profits. The value of possible contributions from pure and applied science in making and selling goods has long been understood by business management. Twenty years ago, Robert Kennedy Duncan, the moving spirit behind the Mellon Institute, pronounced a factual prophecy, when he said:

> During the next five years the small manufacturer who is swept out of existence will often wonder why. He will ascribe it to the economy of large-scale operations or business intrigues or what not, never knowing that his disaster was due to the application of pure science that the trust organizations and large manufacturers are already beginning to appreciate.[1]

Since 1900, the broad importance of science to industry and the conditioning influence which machine processes and laboratory methods exert

on profit-making business methodology have been generally recognized. To-day, some twenty years after Mr. Duncan's statement, the business enterprises of the United States are spending over twelve times as much money in research as the government and the universities combined. In 1927 some 1,000 research laboratories were in operation under a total cost of $217,000,000, of which $200,000,000 was paid out by business enterprises. In the past twelve years individual business enterprises have increased their research laboratories from fewer than one hundred to more than five hundred.[2] Approximately 30,000 persons are at present employed in applied science investigations. The proportion of all persons having gainful occupations who are "administrators, supervisors and technical experts" has been steadily and rapidly increasing. It stood at 1.25 per cent. in 1870 and at 3.80 per cent. in 1920.[3]

Under the impetus of scientific contributions and mechanical inventions, the technology of making goods has become so elaborate that it is increasingly impossible for management, of and by itself, to oversee industrial as well as commercial and financial operations. From almost the very beginning of the so-called Industrial Revolution in the United States, the process of specialization of labor has been going on between those individuals who have an aptitude

and training for "designing and operating machinery" and those who lean by natural bent, experience, and training toward "dealing with markets for wares and money." Thus "while the old capitalist-employer has evolved on one side into a business management, he has evolved on the other side into a set of technical experts." [4]

The first group of experts to assume importance as advisers to management in the direction of production were the engineers. In the change from domestic handicraft to machine manufacture this development was but natural. It is inevitable that "under the new order the first requisite of ordinary productive industry is no longer the workman and his manual skill, but rather the mechanical equipment and the standardized processes in which the equipment is engaged." [5] To a greater extent than in any other known mode of production, our present large-scale power manufacturing is dominated by physical plants and machine equipment. From the profit-making point of view, management must remember that the first and most obvious commitments of capital which it must attempt to use fruitfully are the investments in plant and equipment. It is essential, then, for management to call upon the engineer and the mechanical inventor to aid in perfecting tools and

machines and in effectively directing machine processes and operations.

Management is fully awake to the value of continuous and volume machine production. From the pecuniary angle, it knows that larger outputs of goods and continuous production results in lower-unit manufacturing costs. It realizes that it must employ technical experts who are familiar with the intricate but precise laws of mechanics in order to direct and control this desired continuity of machine operation and its attendant requirements of power supply, lubrication, inspection, repair and maintenance. Current operating costs must be controlled and eternal technical watchfulness must be exercised over continuous operations and machine processes.

Moreover, operative costs must be reduced if possible. New machines which will still further reduce the necessity for hand labor may mean a sharp decrease in costs. In general, as Stuart Chase points out in the following quotation, factory machines have progressed through three chief stages:

> First, they supplied more power to the skilled worker. They increased his output but left his job substantially unchanged.
>
> Second, they subdivided the manufacturing process allowing unskilled or semi-skilled workers to feed them, remove the output, and carry on

the few repetitive motions which their tending required. This is the robot stage.

Third, they replaced the unskilled worker with their own steel fingers, doing the feeding, processing, packaging, themselves. The skilled man comes back into the picture as inspector, repairer, adjuster of delicate controls. His job is interesting, non-repetitive; requires intelligence. The robot has largely disappeared.[6]

The step from hand-tending to machine-tending may mean savings in manufacturing costs. Consequently, management is vitally interested in the efforts of its technical experts to develop new machines. It realizes that in keen competition the business enterprise which has an advantage is the one which develops and instals new and better mechanical devices. It knows that power production can advance no faster than the machine-tool, the instrument for making other machines. So it organizes a development and experimental group of mechanical experts to develop new machines and new methods and machines for making new machines. Because this whole process of experimentation and development requires experts in the physical sciences, they too are employed in addition to mechanical experts.

These technicians are employed not for the purpose of accomplishing "discoveries" or perfecting "inventions" which are to be given to society for the free use of anyone who will use

them, but for the purpose of solving definitely formulated problems. The following quotation presents an excellent description of the typical operating process:

> The idea that a certain operation or process ought to be accomplished by machine . . . may originate either in the factory itself, or be conceived by a member of the merchandising committee or by some executive in the general office. Its desirability being passed upon by several department heads, a member of the mechanical division (or sometimes the person who made the suggestion, if he is possessed of a mechanical training) is then requested to prepare a rough sketch for the device. This drawing is then passed over the desks of several members of the mechanical division, each a specialist, to receive critical estimates as to the contemplated machine's feasibility of construction, the materials to be employed, the practicability and proper mechanical functioning of the machine after it is made, its probable cost of operation, and its prospective performance in terms of physical units of product. If the proposal survives these several analyses, specifications are decided upon and preliminary drawings made. An estimate is then made of the cost of construction, and after this has been approved, detailed specifications are drawn for each part of the machine. It is then built and placed in the factory's experimental room to be tested under actual production conditions. All necessary adjustments are made here, and these may require as long as from several weeks to six months or more. When they have been accomplished successfully, the machine

is regarded as perfected for use and is put into service in the department for which it was designed.[7]

In addition to the problem of the most effective use of physical plants and equipments, management faces the necessity of controlling the use of materials in such a way as to make profits possible and certain. Unwatched material-costs can become a tremendous burden upon continuous and large-scale production. A whole new series of experimental possibilities present themselves in the handling of raw materials, waste, by-products, and scrap. Once again, management calls upon the technical expert for advice and guidance. In this situation the chemist, the geologist, the metallurgist, the electro-physicist are all employed to aid in solving the problems of materials-control and use in the hope of developing new profit-making possibilities.

To exemplify the rôle of the technical expert in his study and advice with respect to machinery and materials, one experience of the Ford technical staff is worth recording here. For a long time the process of treating steel by heat was a troublesome process to the Ford technical experts. Obviously, many steel parts had to be treated with heat in order to increase their strength and make possible the use of lighter parts. The process is a delicate one, because each part must have the proper degree of hardness.

If a part is too soft it will wear out. If it is too hard it will easily break. Accordingly the experts worked out a training method for the heat-treat laborers and also a system of mechanical heat regulation. But one problem remained. The straight parts, such as axles, did not cool evenly. After their heat treatment they had to be straightened and the labor of straightening added to the cost. Once again the technical experts began to experiment. After a year or two they commenced to get results. A centrifugal hardening machine was devised. This new machine cools the axle-shafts evenly all around. The necessity for the straightening operation was eliminated. Moreover, an electric furnace replaced the gas furnace. The results are presented in the words of Mr. Ford and his collaborator, Samuel Crowther:

> Where four gas-fired furnaces, with six men and a foreman, did 1,000 connecting rods an hour for the drawing operation alone, now two electric furnaces will both harden and draw 1,300 rods an hour, with only two men—one to feed and the other to take off. . . .
>
> These changes may not seem important, but cutting out the item of straightening after the heat-treat has saved us around thirty-six million dollars in four years![8]

The effective use of technical experts by the Ford Motor Company and by other large in-

dustrial concerns has pretty well convinced the rank and file of business management that an ncreased dependence must be put on the experiments and the advice of the applied scientist. Management is growing more and more convinced of the truth of Sir Richard Threlfall's statement that "there is scarcely any industrial operation, perhaps no such operation at all, which would not benefit if it were systematically nvestigated." [9] The technical expert has made good. The invention of new machines, the development of new materials, and the perfection of the technological innovations of applied science are proceeding at an incredible rate. From the laboratory comes the word that a way will be found to make or do anything that is needed. Nothing is impossible to the technicians of a generation that gave the world the airplane and the radio, and multiplied President Harding's speech at the tomb of the Unknown Soldier 3,000,000,000,000,000,000,000,000,000 times.[10]

As children in school, most of us were inclined to look upon the inventor and the scientist as persons who built contrivances or analyzed "unknowns" with a resulting benefit to society but without any personal reward except perhaps the erection of a monument thirty or forty years after death by starvation in a garret. The early motion pictures improved the lot of the inventor and scientist somewhat, but still he was depicted

as barely living on the pittance crusts flung to him by an industrial concern which made millions out of his discovery. The present generation has completely changed the picture. To-day, the inventor and the scientist experiments in a completely-equipped laboratory. He is well dressed and well fed. His car awaits him outside the laboratory door. The change is the work of the impatient business manager, who cannot wait for technological innovations to be designed, patented, and sold to one and all.

The general watchword of science at the moment is usefulness. Years are no longer spent in a futile search after a formula for synthetic gold, or in attempts to bolster theology by geological discoveries. The medieval alchemist has been succeeded by the industrial chemist, who uncovers new commercial materials and turns old elements "to novel uses in the manufacture of commodities." The geologist is more interested in the possible uses of the earth's materials than in their age. The biologist earns his living by improving the animal and plant life in which his employers deal.

However, if we turn to the social sciences as opposed to the natural sciences, the picture of a developing dependence on the expert by modern business management is not so vivid and clear. Applications of the social sciences to the problems of business lag far behind the applications

of mechanics, chemistry and electro-physics. Only in recent years has the practical usefulness of the knowledge which the social sciences can convey been generally admitted. However, a beginning has been made already and some of the results have been of definite value. "At least as rapidly as they have grown ripe for the task, these sciences have been put to work by new groups of experts, who are gradually gaining something of the self-confidence and the recognition enjoyed for decades by engineers." [11] The psychological expert is being used in studying personnel problems. The cost of placing and training employees is an important cost. If savings can be effected by a psychological study of the requirements of different jobs and a psychological rather than a military supervision of working conditions, management wants these savings effected. If a marketing expert can evaluate even roughly the qualitative factors which are causing sales resistance, management wants the rough evaluation. If a stylist can work out an approximately accurate set-up of the style cycles of the past which can be used as a basis even for *possible* style trends in terms of time, management wants the qualified prophecy. If the business statistician can give sound advice on planning and current operations only seventy per cent. of the time, management wants his advice. And so it goes. The line or operating man-

agement will increasingly lean upon the technical experts who are soundly versed in the sciences of nature and of man.

The story is told that in the days now past, when business was more intensely an affair of personal rivalry, the head of a large manufacturing concern startled his business rivals by hiring two chemists.[12] One of the jealous rivals headed for New York almost immediately, hunted up a friend with a knowledge of chemistry and chemists, and said: "I understand that So-and-So has hired two chemists. I want you to get busy and hire me four."

Yes; but what of the small business enterprise that cannot go into the open market and "buy four chemists"?

The most of what has already been said about the value and importance of the technical expert would seem to imply that only the large-scale business enterprise will have funds enough to make effective use of the possible contributions of applied science. And yet there are thousands of small business enterprises, no one of which can conduct a research laboratory, and every one of which could profit by technical guidance and advice. Organized cooperation in trade associations is the small business enterprise's main hope of securing needed technical advice. For many years the trade associations have been doing intelligent and valuable scientific work.

"At least forty trade groups are engaged upon such programs, and these groups vary from a half-dozen individual members to many hundreds, and spend from small amounts up to a million and more dollars annually."[13] Unquestionably a well-organized trade association can provide for its members many of the benefits which come to an individual business enterprise which is large enough to maintain its own laboratory, tho perhaps not in quite the same degree.

The business managers of many small business enterprises are, of course, skeptical of any group-research projects. They feel that in engaging in trade-association research, they may be surrendering some of the advantages which they enjoy as competitors in the field. They forget that any benefits that can be secured from the new truths which may be discovered rest almost directly upon the ability of the individual enterprises to apply to their individual activities the data thus secured. On account of this feeling, however, most trade associations which undertake scientific research attempt to select problems sufficiently fundamental to avoid a competitive spirit.[14]

Many such organizations begin their program of work with standardization and simplification activities. In these efforts the trade association may call upon the aid of the Division of Simplified Practise of the Department of Commerce.

The development of a Simplified Practise Recommendation by the Department of Commerce starts with a determination of existing production and sales-trends by means of surveys conducted by committees appointed by the trade association concerned from its own membership. From these surveys a tentative recommendation is set up and presented to a general conference of all members of the association, and other distributors as well as users. Following this general conference, the recommendation is presented to more or less the entire industry by letter referendum. The formal endorsement of the recommendation by the Department of Commerce is generally made dependent upon an acceptance of the program by at least 80 per cent. by volume of each group concerned.[15] Much has been accomplished by the Simplified Practise Division of the Department of Commerce in cooperation with trade associations and with individual business enterprises. Typical examples of this work are the reduction of 44 different types of common brick to 1, the reduction of 1,351 different types of files and rasps to 496, the reduction of 125 types of metal lath to 24, and the reduction of 1,819 varieties of sheet steel to 261.

By working through the trade association and with the cooperation of the Department of Commerce the small business enterprise can emulate and approach the savings that large-scale busi-

ness enterprises have been able to effect by simplifying materials and supplies. Some of these latter savings have been tremendous. The Pennsylvania Railroad, for example, has succeeded in eliminating 44 per cent. of the items carried in its stores, making a reduction of from 140,000 to 78,000 items. The Union Pacific Railroad effected a 46-per-cent. reduction in the number of items carried in its stock, which promptly released $18,000,000 tied up in stores inventories.[16] One specialized organization, namely, the American Society for Testing Materials, offers its services to trade associations in carrying on cooperative research projects looking toward the standardization of specifications and methods of testing materials. It has already done work in sixty-five different industries.[17]

Nor is there any real need for the trade association to limit its technical work to such fundamentals as simplification and standardization. Ten or eleven years ago, for example, the idea that technical research could be of benefit and profit to the cleaners and dyers suggested itself at the annual meeting of their trade association. To-day, a modern institute has been erected at Silver Spring, Maryland, which carries on research work of varied character. The beginning of this project was a program which made use of a consulting chemical laboratory continued upon the fellowship plan at the Bureau of Stand-

ards. Now, in addition to technical investigation, the Institute offers a series of technical courses to those who are either employed in or who are expecting to enter the dyeing and cleaning business. The activities of this research project indicate what an industry composed, for the most part, of a large number of relatively small units, can do for itself.[18]

It is manifestly impossible to evaluate the assistance of the technical expert and the contributions of applied science to the task of business management. The most that can be said is that through the efforts of individual business enterprises and trade associations some industries have profited immeasurably by making full use of technical and scientific advice. The steel industry owes its existence to the contributions of science. Crude methods of making steel have been steadily improved by scientific experiment, and new steels, nickel, chrome, tungsten, vanadium, and so on, have been developed to meet special demands. Adequate fuels have been devised and waste gases have been utilized. The inventor and the mechanical engineer have been back of most of the mechanical progress in the automotive industry. The rubber industry, whose business in 1925 amounted to a billion and a quarter dollars, maintains some 24 research laboratories and employs 1,066 research workers. The services of the chemist and the physicist

are continually used to work out new methods of treating rubber and to suggest new uses. However, it may not be out of place to point out that in a list of the 32 American corporations holding the highest rank as measured by research workers employed, there does not appear a single representative of two of our basic industries, namely, coal and textiles.[19] Incidentally, these same industries have been at the bottom of the earnings scale in recent years. Of forty-four American countries which, during the war, engaged in the production of potash, only one has survived. That is the one alone which developed and supported a program of research.[20] There is evidently still much to be done. Business enterprises cannot evade the necessity of new attitudes and new methods by the simple process of glorifying integrity of product and honor and dignity of personnel.

A more intensive and extensive use of the technical expert who is versed in the sciences of nature and of man is inevitable. There are three reasons for this statement. In the first place, the course of business during the years that are just ahead is going to be severely competitive. We have a tremendous production equipment, and the owners of that equipment are going to insist that it be used. Second, we face an increasingly uncertain consumers' demand. There are still "large blocks of con-

sumers" who have yet "to find and disclose their places in our general consuming power."[21] Huge production equipment and uncertain consumer demands make for highly competitive conditions. Hence the development of better technical control in the direction of less waste and more production per unit of expense is a major problem. Third, an efficient technical guidance and control of business activities is necessary to secure harmonious industrial relations.

> You cannot take your industrial relations problem away from your operating problem—consider it by itself. Your real personnel department is the whole group of those working and managing. The effectiveness with which you do the things, the extent to which you can make efficiency of effort and pleasure identical, the extent to which you can do a thing so well that you can pay a better wage than is customary and survive as a profit-making institution—to that extent you create the basis for harmonious industrial relations.[22]

Now, this whole program of technical improvement must be based very largely on the machinery of research and experiment. Most of the data which establish a factual basis for cost-saving methods of business operation is so concealed in a great mass of intermixed usable and non-usable elements that specialized and expert methods for their discovery, valuation, and util-

ization are absolutely necessary. Tiny shreds of an idea chased down to a fundamental law which can be scientifically and persistently applied make possible tremendous business evolutions. With constant experimentation, the wastes and inefficiencies of the past and the present can be made to yield the profits of the future. Business management, in general, can well say with Arthur Little, "The price of progress is research, which alone assures the security of dividends, and that progress is made not by raising tariffs, but by devising new methods, new equipment, new organization for operation, distribution, and control." [23] In the making of goods the technical expert must build upon the natural sciences. New discoveries and new evaluations are necessary preliminaries to new utilizations. Likewise, in the managing of men, the technical expert must build upon the social sciences. New facts and new testing are fundamental to a firm foundation.

Because of the organization of our complex money-profits or business economy, the technical expert will remain for the most part merely an adviser to the business manager. The highest authority in deciding what business will or will not do rests with management. The technical expert has his opportunity to share in the guidance of business activity, but only in a somewhat secondary rôle. Business management assumes the

responsibility of making profits and business management must retain the final word in deciding upon the technical program.

Consequently, it would appear that business management must survey the whole technical order with the clearest vision and the most receptive attitude of mind. It must be more ready to recognize and accept the unquestioned value of research accomplishments.

> The American rights under the viscose patent for artificial silk could have been purchased at one time for $50,000. No American buyer could be found. In 1925, a foreign-owned corporation produced in this country, thirty-six million pounds valued at $81,000,000. The sulfite process for making wood pulp; the basic syntheses for dye manufacture, the manufacture of methaenol from blue water gas, not to mention rare accomplishments in the field of optical glass —all remind us of lost opportunities in America to capitalize American intelligence for the prosperity of American industries.[24]

Management must be alive to scientific opportunities. When research produces something which possesses commercial possibilities, the inventor and the research worker should not be obliged so often to engage in a campaign of personal salesmanship and industrial advertising to secure an opportunity for the development of his discovery.

Again, business management must be patient

with research. In the past it has not been uncommon for a century to elapse between the discovery of a natural law of chemistry or physics and a practical or commercial application of it.[25] The scientific expert must not be regarded as a dealer in miracles. He cannot fairly be expected to produce overnight from his manuscripts and test-tubes the answers to problems that require five years of experimental work. There is a deal of danger in setting up the technical expert as a modern Aladdin and judging results by an inadequate time factor. More than once the progress of research has been seriously jeopardized and even crippled by demanding results too quickly.

Finally, business management needs to recognize more fully the relationship of pure science to applied science. Most of our present-day industrial inventions which fairly take our breath away as we contemplate them are founded upon principles gleaned from nature by the pure scientist of a few decades, generations, or centuries back. What will happen when we have applied practically all the knowledge of pure science which we possess? "We are utilizing the basic raw material of research—the common fund of information about nature's laws—faster than we are adding to it."[26] And yet the two processes of applied and pure research should be kept in balance.

Management cannot afford to shirk its responsibility in contributing to the forward march of pure science. It has much to gain. There is no reason to suppose that all the useful knowledge in the fields of pure science has been discovered. Human needs and coincident markets abound for products that still await the discovery of fundamental but unknown principles of pure science. There is scarcely an industry in operation to-day which does not feel the need for more basic and purely scientific information at some conjuncture of manufacture and applied science. Certainly, any increasing disparity between the amount of work in pure and applied science is of real significance to business management.

It is seemingly strange that America, a country which has few rivals in applied science, should lag so much and so far behind the European nations in its progress in the fields of pure science. Despite the fact that the Nobel prize has come to four Americans, Millikan and Michelson for physics, Richards for chemistry, and Carrel for medicine, much more work is being carried on in pure science by our European neighbors. In England, twenty-six research associations are the recipients of an amount of government subsidy of $25,000,000, a large portion of which is used in research in the fields of pure science. In our own country, the total expenditure for both

governmental and university research for 1928 was $17,000,000 as opposed to $200,000,000 spent in industrial research. While the figures unquestionably intertwine to the extent of indicating an accurate picture of the amount of effort being put into pure and applied science, still they apparently point out a trend. In France, a tax on salaries paid among industries is sufficient to raise $750,000 a year for fundamental research. Business management in America must soon realize that it is indispensable that more time and money be devoted to fundamental research if we are to keep up the technological advances of the past and present. We must add to the common fund of information about the laws of nature and of man if we wish to increase their commercial applications.

> Already does that organization put up the shutters and beckon to the receiver which through parsimony, through blind prejudice, or through just dumb ignorance fails to fall into line and keep step in the procession of forward-marching moods, methods and marvels of the present day in industrial affairs."

And behind all the new moods, methods, and marvels lies fundamental law!

## IX

## THE RÔLE OF THE LENDER

THE Biblical parable of the "talents" has both a spiritual meaning and a business bearing. When the lord of the servants came and reckoned with them, he cast the unprofitable servant into outer darkness with the reproof, "Thou oughtest therefore to have put my money to the exchangers." It was not enough for the slothful servant merely to hoard and bury the one talent in the earth while the master traveled into a far country. Fruitful using as well as safe-keeping had been his charge. Because he did not completely execute the charge, because he had not the fruits of use, there was taken away even that which he had—the original talent.

The admonition of the modern business lender is much the same. He plays his rôle in our business economy by harnessing credit to the business wagon and counseling the coachman in the safe and productive use of the draft-horse.

At one time or another most business enterprises need to borrow. In the process of borrowing funds, the business enterprise must satisfy the lender of its ability to safeguard the principal and to pay the interest. Thus it is that

management must often submit its business judgments to the court of the lender. We have already noted the fact that management, with the assistance of employed technical experts, plays the most active and important part in guiding the activities of a business enterprise. However, since modern business is largely transacted with borrowed funds, management must submit most of its important projects to review by lenders of credit or investment funds.[1]

This review of the projects of management is not merely perfunctory. It has a decided practical influence upon the guidance of business activity. New enterprises and new expansions of old enterprises are always being proposed in larger numbers than available funds can finance. By accepting some proposals and rejecting others, the lenders, to a very large extent, have been able to direct the course of business development and to dictate terms and policies to "going concerns." Thus it can be said that one of the most important factors in the final control of business activities—the right of review—is vested in the creditors of business enterprises.

The most vigorous and intelligent review of management's projects is generally characteristic of the financial lending institutions rather than of individual lenders. In fact, the traditional sources of the greatest volume of funds

which may be borrowed for the creation of new enterprises or for the expansion of old ones have been these lending institutions.

The principal financial institutions which assemble funds and which make their assembled funds available for business use are the savings-banks, the insurance companies, the commercial banks, the trust companies, and the building and loan associations.

There are many kinds of savings-banks, ranging all the way from mutual savings-banks to postal savings-banks. Essentially, the savings-bank is interested in collecting small streams of savings deposits from a large number of relatively small depositors. These banks then hold the collected deposits and pay interest on them, but do not permit the issuance of checks against the deposits. They reserve the right to require notices of withdrawal from their depositors. The period of these required advance notices ranges from ten to sixty days. Now, in order to make money with which to pay interest to the depositors, the savings-bank must find some way to lend these deposited funds to safe business enterprises. Because the clients of the savings-banks are mainly working people who desire a secure depository for their savings, the laws of the individual States more or less prescribe how the savings-banks may invest their depositors' funds. Consequently, these banks invest very largely in

real-estate mortgages, and in government and railroad bonds. On June 30, 1915, the total savings deposits in the United States were $9,241,000,000, and the total bond holdings (loaned deposits) were well over $5,000,000,000. On June 30, 1925, total savings deposits of $21,408,000,000 and security holdings of $14,000,000,000 were reported. In this ten-year period, then, the savings-banks alone absorbed more than $9,000,000,000 of new securities, or in other words, extended $9,000,000,000 worth of new aid to business enterprises. Savings-bank deposits appear to be growing at the rate of $2,000,000,000 a year, and so it can be said that this financial institution alone is in a position to make over $1,000,000,000 of new loans to business each year.

The insurance company is also an important collector of many small streams of funds and a large lender to business enterprises. Fire, hail, marine, accident, life, and a multitude of other kinds of insurance companies are engaged in assuming most of man's definite risks. Their activities consist of collecting periodic premiums from their policy holders according to a contract, in return for which they agree to pay the policy holder or his beneficiaries a relatively large and stipulated amount in the event of the actual occurrence of the misfortune against which the policy holder has insured. The prob-

abilities of fire, death, sickness, or what not are worked out by actuarial mathematics and experience-assumptions. As a result, the premiums are fixed at a level which will enable the company to pay for such losses as may occur and still make profits. Thus large funds are created, which, of course, in equity, belong to the policy holders in the main. These funds are invested in real estate, loans secured by mortgages on real estate, and in bonds—municipal, railroad, and industrial. The admitted assets of the life-insurance companies alone total more than $15,000,000,000, so that the reserve funds of all insurance companies which are employed in aiding business enterprises constitute an extremely important sum.

The commercial or business bank also carries on the important activities of assembling funds and of making loans. When the bank is formed, the stockholders provide funds, and from time to time they and other clients deposit varying amounts of funds in this reservoir. Most of the funds, of course, come from depositors. The bank knows that it is wholly unlikely that all the depositors will want all their money at exactly the same time, and therefore it does not keep its funds idle. In actual practise, taking an average over a long period, the bank knows that it need keep in its vaults only from fifteen to twenty per cent. of its total deposits. Much

of the rest can be utilized as loans to business enterprises. However, the bank must rely on its loans to meet its obligations, and the character of its obligations determines the kinds of loans it can make. Any bank must stand ready at all times to pay any of its deposits whenever payment is demanded (in case of demand deposits), or when they are due (in the case of time deposits). Consequently, a commercial bank with demand obligations must make its loans for shorter periods than the savings-bank with time deposits or obligations. The commercial bank, in the main, then, makes call loans, demand loans, and relatively short-term loans running from a maturity of a few days up to six months. Moreover, the maturity dates of these short-term loans are usually arranged in such a way that the obligations of the borrowers fall due steadily and successively. In their lending function, the "commercial" banks specialize in short-term loans. A rough idea of the importance of the commercial bank as a lender may be gained from the total loans and discounts reported by the member banks of the Federal Reserve System. On September 25, 1929, this figure reached a total of $17,244,000,000 as compared with a total of $15,868,000,000 on September 26, 1928.

Trust companies, too, are important contributors of permanent capital to business enterprises. Fundamentally, the trust company per-

forms the function of administering funds which have been put in trust. It acts as trustee and business manager for "passive investors," and especially as executor and administrator of estates, or as guardian of a minor heir.[2] It has no connection with those monopolistic enterprises which are sometimes called "trusts" except the connection of verbal accident through the word, trust. In current practise, the trust company does a variety of things. It may act as trustee for a corporate mortgage, as fiscal agent, as registrar of stock, as a transfer agent, or as a manager of an underwriting syndicate. It may serve as curator, assignee, receiver, and custodian for property in dispute. Moreover, it is quite likely to do a commercial banking business and to accept savings accounts. Thus it is a large assembler and manager of funds which it must keep safe and busy.

Another foremost savings institution which is rapidly becoming an important lender is the building and loan association. This institution is the most successful form of cooperative credit institution that has yet appeared in the United States. The ostensible purpose of the building and loan association, or the savings and loan association, as it is sometimes called, is to promote saving and home-building. Small payments are made to the association at regular intervals by the members, and money is loaned to mem-

bers on mortgage to help them finance the building of homes. For example, a member buys stock with a par value, say, of $500, and pays 50 cents a week until the amount he has paid in, plus the earnings, equals $500. If he is merely an investing member, he then receives the $500 in cash. When he borrows from the association on mortgage in an effort to build a home, he must take out stock, the par value of which will equal his loan. When he has paid up his stock, the loan is canceled. In 1926, some 12,800 building and loan associations were in operation with a membership of 11,275,000 and total assets of $6,280,000,000. During 1926 the gain in assets made by the building and loan associations was greater than the increase in savings deposits recorded by mutual savings-banks and national banks combined. While a large part of the assets of these associations must inevitably be put to work in real-estate loans, the desire for diversification will undoubtedly direct an increasing volume of its assets into bonds. Any "catching-up" in home building will hasten this movement.

Between these many and varied financial institutions which assemble small streams of funds into huge amounts and the business enterprises which desire to use these funds there is need for some kind of liaison or connection. To answer this need a large number of financial enter-

prises have sprung up which, while they may serve to some extent as agencies for assembling funds, are primarily engaged in marketing funds to needy business enterprises. In fact, they may be called financial "middlemen." The most important middlemen that make up this group of marketing functionaries are the financial brokers, the mortgage companies, the investment-banking houses, the commercial-paper houses, the commercial-credit companies, and the investment trusts.

In the same way that a canned-goods or a fruit-and-vegetable broker, without owning or perhaps even possessing these commodities, brings sellers and buyers together, the financial broker brings together the lenders and the borrowing business enterprises. The financial broker does not own the loanable funds, nor does he necessarily have possession of them at all during the whole process of negotiation. In the smaller towns and communities these financial brokers are very often lawyers or real-estate men who perform this brokerage service for a fee "on the side" as a supplementary activity to their fundamental business labors.[3] When the volume of this financial work grows they become specialists in brokerage.

Mortgage companies are also marketing middlemen engaged in bringing borrowers and lenders together. The mortgage company uses its

funds to buy mortgages issued by business enterprises and sells these mortgages to individual purchasers, savings-banks, insurance companies, and trust companies. This type of company may be either a partnership or a corporation, and consequently it obtains its funds from the contributions of its partners or from the sale of stock to the public as well as from its surplus earnings. Some mortgage companies buy mortgages and, with these mortgages as collateral, issue and sell their own obligations (bonds). For example, a mortgage of several millions of dollars on a large hotel, office building, or apartment house may be negotiated by the mortgage company and distributed in small units among a large number of investors. The holders of these small-unit bonds become creditors of the mortgage company, but in no sense do they become the mortgagees of the property which may be serving as collateral.

The investment-banking house, like the mortgage company, is essentially a financial middleman. This type of company, commonly known as a bond house or an underwriting house, is usually a private institution conducted by a small group of partners. Only a few investment-banking houses are incorporated. The business of the investment-banking house is fundamentally that of buying securities at wholesale and selling them at retail. In general, it performs one or more of

the following functions: investigating proposals, forming syndicates for underwriting, and selling securities. Extreme caution is exercised before making an agreement to handle a new issue of securities. In the case of a railroad-bond issue, for instance, the investment-banking house will engage engineers to make a complete physical appraisal of the road, lawyers to examine its leases, franchises, and the legal status of other outstanding securities, and accountants to verify the earnings and the set-up of the assets and liabilities. Moreover, the ability of the management and the factor of competition from other lines will be carefully evaluated. Sometimes the investment-banking house will buy bonds outright and then proceed to sell them in small lots to large numbers of investors. At other times the house will "underwrite" an issue by insuring the borrowing enterprise that if the securities in the issue are not entirely sold in the open market the investment-banking house will buy the remainder at an agreed price. Again, the house may take the lead in forming a purchasing syndicate by bringing other investment-banking houses into an organization to underwrite an issue of securities. The following statement exemplifies the method:

> The XYZ Railroad issues $10,000,000 first-mortgage bonds at 6½ per cent. at a par value of $100. A syndicate consisting of bank A as

syndicate manager, and banks B, C, D, and E as underwriters, pools its resources or forms what is known as a joint account and buys the securities from the issuing corporation at a price of $97. From the time of this purchase to the final disposition of the securities, the issue must be "carried" or taken over by the buying syndicate, which must provide the corporation with an amount equal to the purchase price of the securities. Funds are usually borrowed from commercial banks or trust companies, which accept the securities themselves as collateral on this amount. The banks lend from 70 to 80 per cent. of the total amount, while the underwriters furnish the remainder.[4]

In the same way, selling syndicates may be formed, consisting of fifteen to twenty associates, the number depending upon the size of the issue. In fact, the selling associates may assume "unlimited" or "limited" liability for the sale of the securities. In the former case, profits and losses are shared in proportion to the amount underwritten by each member irrespective of the actual amount of securities which may have been sold by the individual member. In the latter case, each selling associate is responsible only for the amount of sales which he has guaranteed.

As an illustration of limited liability, bank A has underwritten $500,000, but has sold only $300,000 and so it must take over the difference of $200,000 at the dissolution of the syndicate. On the other hand, with an unlimited liability,

bank A has underwritten securities to the extent of one-tenth of the entire issue, or $500,000, and sells $600,000 of these securities. Other members of the syndicate are not as successful in their sales, therefore at the dissolution of the syndicate there is still a balance of $2,000,000. Altho bank A has effected sales in excess of its subscription, nevertheless, it is compelled to take over additional securities to the amount of one-tenth of the balance, or $200,000.[5]

There are other ways of underwriting, but the basic service in each and all of the methods is to make available for the business enterprise "a definite, dependable amount of funds."

Another type of specialized intermediary or financial middleman is the commercial-paper house. This marketing agency receives no deposits except the contributions of its partners or proprietor. It extends credit to borrowers by buying their obligations. These obligations, promissory notes in the main, the commercial-paper house sells to commercial banks and individual purchasers. Generally speaking, the commercial-paper house does not indorse the paper which it buys and sells, so that this house cannot be held liable by the purchaser if the "instrument" is dishonored at maturity.

Still another important intermediary between lenders and borrowers is the commercial-credit company, sometimes called discount company or finance corporation. This type of company buys

the "book accounts" or "accounts receivable" of business enterprises and collects these accounts as they come due. Almost every business enterprise sells some of its goods "on account," and many find it convenient to sell these accounts at a discount to the commercial-credit company in order to secure an immediate command of funds and instead of waiting until the accounts fall due and are collected. Trade acceptances and notes receivable are also discounted by this company. It is also used in financing instalment sales. On the basis of these purchased and discounted obligations the commercial-credit company sells its own obligations to individual purchasers and to commercial banks, who thus become the real lenders.

The newest form of financial middleman is the institution which is known as the investment trust. This type of financial institution is distinctly a post-war development in the United States, altho London and Edinburgh investment trusts have a tradition that goes back six or seven decades. The first sizable American trust was started in 1921, but the rapid development of the investment-trust idea has occurred only during the past four or five years. Dr. L. R. Robinson defines this new financial institution as follows:

> An investment trust is an agency by which the combined funds of many investors, both in

large and small amounts, are utilized to purchase such a wide variety of securities that safety of principal is attained through diversification, while the portfolio is so managed that a good average yield is sought on share and borrowed capital. At the same time a close supervision of the portfolio permits a turnover policy aimed at the realization of the capital gains and the avoidance of capital losses.[6]

Fundamentally, there are three types of investment trusts: the general-management type, the fixed type, and the limited-management or semi-fixed type. The differences among these types are management differences rather than legal or capital-structure differences. In the first type the management has great freedom in shifting the investments of the trust, and any public knowledge of the holdings of the trust is non-existent or only occasionally and partially available. The holdings of this trust may include a wide variety of securities, call money, commercial paper and bankers' acceptances, as well as stocks and bonds; both civil and corporate obligations; and foreign securities as well as domestic.[7] The fixed type of investment trust allows little freedom to management. The holdings of this type of trust cannot be changed except in case of merger or reorganization, and information as to complete holdings is available to the public. The semi-fixed type of investment trust allows management to make changes in the list

of holdings under certain circumstances and from limited lists of other securities. Investors are informed of any replacements and know what securities underlie their own investments in the trust. While, in general, the investment trust uses the funds which it has assembled to purchase listed stocks (shares in business ownership), nevertheless it is an important lender, because it purchases bonds, makes call loans, and lends on short-term notes as well. Unquestionably, it is a merchandising agency through which collected funds can be loaned or invested in ownership. It is, however, a merchandising agency which places a great deal of emphasis upon assembling funds.

Such are the most important lending institutions and the most common financial middlemen. Both the institutions and the middlemen are vitally concerned with the task of making funds available to business enterprises which need to borrow. In the exercise of this activity, they render a very real service to business and to society. As the reviewers of business projects, they have much to do "with the apportionment of our social resources among the enterprises of the community."[8] Theoretically, they aid in that they make an impartial investigation of the merit of the proposal which is to be financed. Nevertheless, these institutions and these middlemen are operating business enterprises in and

of themselves. They are operating in a business economy for the purpose of making profits. In this quest for profits, does the lender consider social needs or does he intensify the conflict between the aim of business and the aim of society? Just what is the rôle of the lender to-day as compared with the past? Is the lender furthering or hindering progress in the direction of a solution of the so-called economic anomaly?

In the past, our financial institutions have been able to dictate policies to going business enterprises somewhat at will. Moreover, the policies dictated have generally been policies which have been favorable to the lenders themselves rather than to the borrowing business enterprises, "except in those instances in which the two sets of interests" by mere chance have coincided. The willingness of the lender to make loans all too frequently has been conditioned by his own interests rather than by the needs of those engaged in producing and distributing goods. Commercial banks have refused loans which were essential to business enterprises because the proposed loans did not offer the desired money gains to the lending institution. Investment banks have been known to refuse to underwrite proposals which were essentially sound because the prospects of securing the desired promoters' or underwriters' profits were not clearly apparent. There have been plenty of

specific instances of "restricted production" which can be directly attributed to the profit-making desire of the lender.[9] It is small wonder that the statement is sometimes made that "instead of credit serving production, it appears that production is subject to the will or whim of credit."

There is, of course, ample historical reason for this dictatorship of the financial institutions. As our discussion of the evolution of business economy has already indicated, banking became a business while manufacturing was still in a handicraft stage. The lender was in a powerful position "when the factory system was born."

> As modern capitalistic industry emerged, large and increasingly larger aggregates of capital were needed for the building and expansion of factories. The banks were the only sources from which the needed liquid capital might be secured. Therefore the banks became both owners and creditors of the new industrial enterprises. The increased production due to the factory system made available still larger resources for the banks, and so the growth of industry and the growth of banking were cumulative, each contributing to the other. Yet while manufacturing enterprises were turning out large volumes of wealth, their needs for both fixed and circulating capital tended for a long time to increase more rapidly than their own ability to supply it. Both the old enterprises and the constantly increasing new ones were compelled to cater to the banks to supply their financial needs.[10]

At the present writing, however, the business enterprise appears to be becoming somewhat independent of the financial institutions. Since 1921, business managements have apparently given a good deal of attention and effort to the task of "growing from within." They have learned the lesson of forethought and have built up accumulated reserves and sinking funds against definite future requirements or against various possible contingencies. An adequate surplus is the best insurance against credit stringency, and the present-day business enterprise seems determined to be amply insured. Consequently, in addition to "plowing back" accrued earnings into the business from time to time, many enterprises are keeping their surplus on hand in highly liquid form for long periods. By supplying their own capital and by preserving a large and liquid surplus, such enterprises are gradually freeing themselves from the dictatorship of outside financial institutions.

In fact, large portions of such surpluses are being invested in securities, and thus the business enterprise itself is entering the field of banking. Business surpluses compete with banking funds. Many corporations are to-day making "banking" profits by lending portions of their surplus to other enterprises. "Thus these surpluses actually are supplying investment credit

to other concerns, whose surpluses are, in turn, invested in the securities of still other concerns."

The growth of the corporate items of "cash" and "securities" has been extremely rapid and is certainly significant. On December 31, 1921, 106 major companies in 18 different American industries had over and above their notes payable some $221,000,000 of cash and marketable securities.[11] In the short period of six years these same companies had increased their cash and security holdings to $1,670,000,000. The *Wall Street Journal* of June 2, 1927, gives an analysis of the reports of 129 corporations for the year ending December 31, 1926, which shows that the 129 enterprises had cash and security holdings which totaled $2,251,365,355, an increase of $292,134,031 over their record for 1925. The *Wall Street Journal* commented in part as follows:

> United States Steel Corporation heads the list in total cash and security holdings with $317,933,603, a gain of $22,588,651 over the preceding year. Standard Oil of New Jersey comes next with $210,447,186, General Electric third with $147,536,549, and General Motors fourth with $135,398,386. There are eleven companies in the list with aggregate cash and security holdings of close to $1,000,000,000.

In this process of strengthening their financial position the larger business enterprises have not gone into the "banking" business merely by

lending to other concerns through the purchase of securities. Many, indeed, have organized their own privately operated commercial-paper houses. The Industrial Acceptance Corporation of the Studebaker Corporation and the General Motors Acceptance Corporation are "banking" efforts in the direction of supplying credit to customers and at the same time securing cash from deferred-payment sales. Even the smaller business enterprises which are located in the less important industrial centers are becoming owners of banks which conduct a general commercial or investment business.

In addition to this growing financial independence of the business enterprise there is ample evidence that the interests of the lender and of the business manager are becoming "more nearly identical." [12] As a class, the banking lender is no longer set so sharply apart from the trading or manufacturing business enterpriser. Our industrialists and merchants are becoming officers and principal stockholders of financial institutions in larger numbers every year. This intermixture of bankers and business enterprisers on the boards of our financial institutions tends to cause any serious conflict of purpose to disappear. When the directing officers of a bank are composed in part by men who are the active owners as well as the creditors of business enterprises, mere banking-profits

possibilities will cease to be the all-important determinant in making loans. On the higher levels the functions of the "lender" and the "enterpriser" merge.

Another significant tendency which appears to be operating toward a merger or a unification of the interests of financial institutions and of merchant or manufacturing enterprises is the organization and operation of separate securities companies by the large commercial banks. These subsidiaries perform all the functions of investment houses and purchase the stocks and bonds of industrial corporations.

Finally, it should be pointed out that in instances of promotion and underwriting by investment-banking houses, the profits secured by the promoters or underwriters generally consist of stock in the companies which are being financed. In such cases, the ultimate profits to the investment house would seem to be bound up quite intimately with the profit-making operations of the industrial corporation which the investment house has financed.

Two of the best-known of our giant holding companies engaged in manufacturing are the United States Steel Corporation and the General Motors Corporation. Both of these companies were conceived and organized by bankers. And the bankers who promoted them continue to own large blocks of their stock. In fact, these blocks of stock may be regarded as among the chief

assets of the bankers. It is difficult to imagine a gain to be made from any financial operations as bankers which would be large enough to justify a sacrifice of the companies in which they are stockholders. Nor is it probable that they willingly will permit any other group of bankers to reap any benefit at the expense of the companies.[12]

By and large, then, the rôle of the lender is to review the projects and proposals of management not alone from the point of view of possible "banking" profits, but with a recognition of the fact that credit facilities are an essential necessity of business. While in actual lending practise many instances of spectacular financial manipulation may be cited, in the main, the tendency toward "the granting of credit as a matter of routine upon the presentation of specific kinds of security or the establishment of a certain level of operations, as shown by a suitable statement, and the abandonment of the type of operation in which credit was granted merely because of personal considerations" is clearly indicated. The services of financial institutions in extending technical aid to their creditors by means of the employment of marketing experts, industrial engineers, and even research specialists is seeming evidence that the financial institutions are attempting to

become more than mere lenders. As purveyors of credit, they are attempting to facilitate the use of the credit by business enterprises in the process of making more goods and more money.

X

## THE RÔLE OF THE CONSUMER

SOMEWHERE there is an old tale that goes in part as follows: "'Their pockets are full of money,' said the Keeper of the Inn, 'but there is not a mother's son of them that knows what to do with it.'" Such is the picture of the average consumer which is often seized upon in these hypercritical days. It is easy to portray the consumer in this present world of amazing amounts of available goods as wandering perplexed and bewildered in a Wonderland of Wares. The bold and facile pen-strokes of the following consumer's chromo bear witness to the method:

> Wonderland indeed! A wilderness in which we consumers wander without chart or compass! We buy not for the value of the product to meet our specific needs, but because the story told on every billboard, every newspaper and magazine page, every shop window, every sky sign, every other letter that we receive—is a pleasing, stimulating and romantic story. It bears a Message Straight to our Hearts. But whether or not it is a fairy story we do not know, save through the bitter and wasteful process of trial and error.[1]

Unfortunately, the vividness of the picture may cause us to miss a most important and essen-

tial point. That point is here: No matter how ineffectively and haphazardly the consumer may practise the science and art of consumption, no matter how unconcerned he may be with respect to any individual necessity for technical buying knowledge, still, the consumer has the whip-hand in determining what goods shall be produced.

Business management may play the most active rôle in guiding production. The technical expert may advise and guide the process of production. The lender may approve or reject technical suggestions which have been accepted by management. But in the end the whole body of consumers with money to spend plays the rôle of the court of last resort in deciding what goods shall be made. Because the consumer is an individual, he has individual ideas about what he wants to buy, no matter how fuzzy, vague, and troublesome these ideas may be. Furthermore, if the consumer is free from the restraints of monopoly and of government, the expression of these ideas determines for the most part what is to be produced. The act of spending money expresses the consumer's wish and forces the producer to set up consumers' demand as the final arbiter of production, both in amount and in kind. "Whether the consumer refuses to comply with the wishes of the maker, or the maker refuses to comply with the wishes of the con-

sumer, in either case it is the maker who suffers; it is 'Heads you win, tails I lose.' '' [2] There is no appeal from the court of last resort.

All along the line, from the raw materials to finished consumers' goods on the shelves of the retail store, every business enterprise which is concerned in any way with buying, manufacturing, storing, transporting, grading, or financing any part of the process must assume heavy risks. And the most important business risk is the uncertainty of the way in which the buyer will make use of his freedom of choice. The flow of money-profits through the consumers' markets and into the coffers of business is directed and conditioned by the daily exercise of freedom of choice on the part of millions of individual buyers.[3]

The individual buyer who has money to spend enjoys three options. He is privileged to decide when he will buy, where he will buy, and what he will buy.

He has definite freedom of choice with respect to the time of spending his money. That portion of his money-income which he does not need to keep himself alive or to pay taxes, he may withhold and refuse to spend as long as he pleases. The very fact that we live in a money-profits economy makes possible this kind of freedom of choice. Money has introduced the time-factor into business transactions. Under a system of

barter-economy, purchasing power can be withheld only in the form of commodities such as hides, measures of wheat, goats, tobacco, wool, tomahawks, and the like. The ability to withhold commodity-purchasing power is sharply limited so far as profit-making is concerned. Commodities spoil as money does not. Commodity-purchasing power involves handling costs which will eat into profits made by exchange in later markets. Commodity-purchasing power may depreciate on account of changing needs. Customs, fashions, weather, etc., are factors which do not affect money. In the main, bartering transactions are "spot" transactions. The man who uses the purchasing power of his bear-skin demands and receives at once the sack of corn which he desires. The transaction is complete and finished. In other words, under a system of barter-economy the repayment of goods for goods is not deferred, while under a system of money-economy money furnishes the means of deferring such repayment.

In the second place, the individual buyer who has money to spend has freedom of choice with respect to where he will spend his money. Once again this particular phase of the consumer's freedom of choice is largely made possible by the fact that we are living in a money-economy. The barter-trader is sharply limited in his geographical range of choice. In a money-economy

the individual who wishes to apply his purchasing power in a market thousands of miles from his home can easily do so by mail, telegraph or cable.

> Under a barter economy, a dealer could not ship skins from Chicago to Bordeaux and, before the skins had left the freight yards, obtain payment in gloves at Chicago. Yet this is typical of the transactions that money and bank credit have made every-day occurrences.[4]

Again, the individual buyer who has money to spend has freedom of choice with respect to what he will buy. He may use his money to buy a hat, a mechanical refrigerator, a factory, or a rare painting. The manufacturer of an electric refrigerator has to sell his product at some time or another. But the buyer may buy a gas refrigerator or a new car instead, as he chooses. Under a barter-economy commodity-purchasing power is far from mobile, and so is the available stock of goods. Sudden shifts in buying-fancy, now to substitutes, now to unrelated non-essentials, now back again to the products originally favored, are merely the results of the exercise of the buyer's option as to what he will buy.

Buying is no longer a matter of supplying needs alone, but a matter of choices freely exercised. Since 1900 the population of the United States has increased 40 per cent. The wealth

per capita is four times as great as it was in 1900. Bank deposits are over six times as great, and bank clearings are over four times as great. Unquestionably the consumption of consumers' goods has expanded at a much more rapid rate than has the population. In the nine years following the beginning of the World War there took place an increase of 25 per cent in the purchasing power of the American people.[5] Such an increase was wholly unprecedented and inevitably brought with it "substantial changes in consumption." In other words, at the present moment, the consumer's dollar is far from wholly mortgaged to the inescapable task of providing a bare existence.[6] There is a generous segment of the consumer's money-income which he can spend at his own option as to when he will buy, where he will buy, and what he will buy.

There is little question but that the consumer uses this freedom of choice quite remorselessly. Certainly, he injects into the plans and projects of large-scale business a dangerous and important element of uncertainty. In the case of consumer's goods, in particular, the refusal to buy, or the shift of purchasing power from one type of consumer's goods to another, keeps business management at its wits' end to see and follow the leads of the consumer's fancy. The producer or handler of consumer's goods can ill

afford to neglect or ignore the buyer's freedom of choice.

> Every day, in the United States, at least sixty million people, exercising this freedom, spend at least one hundred million dollars. Every day they buy the commodities and services of their choice, and no others. Do they choose to spend one seventh of their income on motor-cars and motor-car supplies? Very well, no one can stop them. Do they refuse to buy certain magazines and certain styles of shoes? Again, they do exactly as they please. They flock to *Abie's Irish Rose* after all the theatrical managers have decided that they will not. They buy *Main Street* eagerly until April; then—presto!—they stop buying *Main Street*. Women wear furs all summer or refuse to wear them at all, as suits their fancy. . . . All consumers, men as well as women, are free to-day to choose as illogically, as unwisely, as capriciously, as extravagantly, as they please. And to-morrow is a new day: what they will demand to-morrow nobody knows.[7]

The most common objection to this idea of freedom of choice is the idea expressed in the quotation from Stuart Chase at the beginning of this chapter—that this freedom of choice is restricted on every hand by all the beguiling arts of advertising and salesmanship. The assumed distortion of consumer's desires by advertising and personal salesmanship is the usual cry of the social reformer.[8] Unquestionably, the expression of consumer's choices is more a matter of habit, imitation and suggestion than reflec-

tive choice. Conscious of this well-established fact, business management spends large sums of money in efforts to stimulate demand and to direct it into profitable channels. Business management, moreover, has discovered that in general it is easier to appeal to the emotions than to the intelligence, and consequently many selling appeals are designed to influence the biological human being rather than some ideal mechanistic Televox.

Whatever may be the technique of modern advertising and salesmanship, the fact remains that both marketing forces are merely forces of influence and not of restriction. The consumer still exercises his freedom of choice. That choice may be unwise and illogical by classical economic standards, but it is nevertheless the consumer's individual choice. "No matter how many times he is urged to eat an apple a day to keep the doctor away, he is free to eat something else; no matter how many billboards point their arrows at him, he is not obliged to chew gum." [9] He will not eat "yeast for health" if he does not like its taste and does not care to drown it in a malted milk.

Moreover, persuasive marketing is only one of the innumerable factors which influence the consumer in his choices. Individual psychology provides the "mechanism by means of which choices arise and consumption takes place."

Social psychology, too, has its place. The popular habit of "keeping up with the Joneses," which has been so widely satirized in the comic strip, lays its hold upon all of us even while we laugh at it. Biological and environmental factors which we take very much as a matter of course play their parts in influencing choices. By and large, however, these forces are not restrictive. The consumers' freedom of choice still remains as a determinant of production.

Changes and modifications of living conditions all have their influence upon consumption, tho that influence is seldom purely restrictive of freedom of choice. For example, the average wage paid to domestic servants is to-day almost twice what it was in 1900. In addition the cost of such labor has increased by reason of the fact that domestic servants to-day demand very much more as to their "keep" and do less work than was formerly the case.[10] As a result of these changed conditions, the number of cooks alone decreased by over 150,000 between 1910 and 1920, and the total decrease in the number of domestic servants was 300,000. Again, the increase in apartment-house living has had its effect on consumption. The shift from private homes to apartment houses immediately affects purchasing habits through the reduction in storage space and a greater dependence upon readily prepared foods. The rapid extension in

the number of electrically-wired homes has turned increasing amounts of the money outlay into the treasuries of the makers and sellers of electric household appliances. The cheap automobile and paved roads have moved millions of farmers nearer to well-stored retail markets. The circulation of magazines, the motion picture, and the radio have spread the knowledge of new offerings and new ways to spend money into almost every home.[11] These influences and many more all condition the consumer's will to choose. Strictly speaking, however, none of these influences vitally restrict his freedom to choose among all the products that are offered to him.

Because of the freedom of choice which the customer enjoys, and because of a widely increased purchasing power, it is natural that queer congeries of questionable choices result, and that these are reflected back to the producer who is in search of a profit. Unquestionably, in recent years, the will to buy has enormously expanded in the realm of jimcracks and "non-essentials." Consequently the production of jimcracks and "non-essentials" has increased, a type of production which from the strict economic point of view may be considered a sheer superfluity. It may be quite all right to bemoan the fact that:

> We are deluged with things which we do not wear, which we lose, which go out of style,

> which make unwelcome presents for our friends, which disappear anyhow—fountain pens, cigar lighters, cheap jewelry, patent pencils, mouth washes, key rings, mah jong sets, automobile accessories—endless jiggers and doodads and contrivances.[12]

But we do need to remember both that we ourselves do not need to buy these things and that some one other than ourselves may want them and evidently does want them or they could not be produced and sold at a profit for long. The consumer in the mass is hard to judge. He is usually "outside our own circle." And so it is easy to believe that a large part of mankind "wearies itself in consuming things that it does not really want and vying with itself in vulgar ostentation and waste." [13]

One advertising expert has gone so far as to set up definite statements of what "Man the Consumer in the Mass" will and will not do. A glance at these two lists will show us the vagaries of human nature which appear to make for the lack of intelligence in a "freedom-of-choice" consumption. Mr. Kenneth Goode asserts that Man in the Mass:

1. Won't look far beyond his own self-interest.
2. Resents change and dislikes newness.
3. Forgets past and remembers inaccurately.
4. Won't fight *for* things when he can find something to fight *against*.

5. Dares not differ from the crowd unless certain his difference will be recognized as superiority.
6. Except in high emotion, won't exert himself beyond the line of least resistance.
7. Won't act, even in important matters, unless properly followed up.[14]

As opposed to this list of "won'ts," Mr. Goode ts up a list of "wills." He asserts that Man in e Mass:

1. Follows a habit until it hurts.
2. Accepts his beliefs ready-made and sticks to them till the cows come home.
3. Follows his leaders, eyes shut, mouth open; and stands by his friends even when he knows them.
4. Yields to suggestion when properly flattered.
5. Works hard to establish superiority in the eyes of his equals.
6. Finds his greatest interest in his own emotional "kicks."
7. Loves low prices and dislikes economy.
8. Glorifies the past and discounts the future.[15]

To understand the consumer and some of the fects of his capricious will to buy, we need to alize, first of all, that when any large body of nsumers experience such an increase in earng power as has taken place in the United ates during the past few years there is added new and larger surplus for "non-essentials." ommon sense as well as Engel's [16] laws of conmption will tell us that as income increases

the proportion of income spent for food de creases, the proportion of income spent for rent clothing, fuel, and light remains for the mos part unchanged, and the proportion of incom spent for sundries increases.

In the second place, the buyer of consumer' goods is concerned with "value in use" an that value is the consumer's total attitud toward the goods. It is a serious mistake t assume that the consumer buys goods for thei intrinsic properties alone or even in the main The standards for the measurement of utilit which are applied by the government in makin purchases of accessory goods, or by the manu facturer in buying raw materials, are not use by the purchaser of consumer's goods.

> The consumer likes or dislikes, and analyses can be hanged. A Sargent portrait may not be intrinsically as good a likeness as a snap-shot photograph, but the consumer may feel that there is no comparison in their relative desirability; a bar of soap daintily wrapped may be no more cleansing than one gray with exposure, but perhaps the consumer may weigh the pleasure derived from appearance quite heavily in choosing between the two.[17]

The average consumer's will or decision to bu consumer's goods is not a matter of fundamen tal needs or of intrinsic qualities in the good themselves, but rather a matter of a "purel subjective idea of desirability."

Finally, the family is still the dominant unit of organization for the consumption of consumer's goods. This fact is also something of an obstacle in the way of applying extraordinary intelligence to consumption. The consumer certainly furnishes little impetus for the progressive development of such sciences as psychology, anthropology, preventive medicine, public health, and nutrition, which might be of further assistance in furnishing basic data. The consumer not only fails to furnish impetus; he, or she, is also unconcerned with what has been discovered. Very, very few families want to live in a home which is a kind of laboratory for trying out new ideas. Whenever in this modern world a family tries to make something of the home, the tendency is to regard it as a sacred institution, to lean rather heavily upon the past for guidance. The tired business man wants his home to approximate the old family-farm homestead in the hills or the valleys, but with the addition of a radio and a car. The tired business man's wife either falls in with the same notion and becomes an old-fashioned wife, or leaves the home to the haphazard and exasperating management of domestic servants and finds a business position in the workaday world. The younger generation sets up a home in the most aristocratic apartment in the city's "best" section and makes one room serve for bridge, a quick change of clothes,

and a few hours' sleep in the beds that pull out of the wall. "Nobody, it seems, wants to stay in the home and be progressive inside its four walls." [18]

It is rather generally claimed that nine-tenths of all buying is done by the women of the household. It is clear that what food is used in the home is purchased by the housewife or servants under her direction. And so it is with the furniture and fixtures, and even the men-folks' cravats. She very largely influences the amount of money spent for shelter, recreation, and sundries.

The business man is usually trained for the job of making, handling, and selling goods. But the housewife is seldom trained in the technicalities of buying. She

> is not selected for her efficiency as a manager, is not dismissed for inefficiency, and has small chance of extending her sway over other households if she proves capable. She must buy so many different kinds of goods that she cannot become a good judge of qualities and prices, like the buyers for business houses. She is usually a manual laborer in several crafts, as well as a manager—a combination of functions not conducive to efficiency.[19]

This does not mean that the average housewife is less intelligent than the average business man, but simply that her job is more exacting, both because it is not so highly specialized and be-

cause adequate training in it is neither available nor considered necessary. The housewife cannot get the practical help from physiology and psychology, for example, that her husband can secure from physics and chemistry.

Moreover, the business man systematizes his planning on the basis of a money-profits accounting. The incentive of profits is consistently and continually before him. New methods which promise new or additional profits are seized upon and tried out at once, because the profits earned will depend to some extent on being just a step ahead of a competitor. The housewife, on the other hand, waits until many other housewives adopt the new method. The welfare of the household is not as effective an incentive. The dollar is a satisfactory unit for reckoning profits as well as costs, but not for expressing family welfare.[20] In other words, family welfare cannot be easily tested or displayed. It does not lend itself to accounting or to accurate measurement. The prospect of definite results and individual reward are not apparent, and consequently the motive force which must stimulate effort is decidedly weak.

If we turn our attention now, for a moment, to producer's goods used in making consumer's goods and producer's goods used in making other producer's goods, the consumer, in the sense of an individual or household, controls

demand in a lesser degree. In the case of this general type of commodity, business management and its technical advisers have a larger element of discretion. The demand for producer's goods, of course, depends upon the demand for consumer's goods in the long run, but the timing of business purchases of producer's goods is not rigidly bound by the timing of individual or household purchases of consumer's goods. The farther the process of buying is removed from retail counters, the less immediate control over production is exercised by the individual or household consumer.

Irrespective of the influence of the demand of the individual or household buyer of consumer's goods which reflects itself back to the demand for producer's goods, it is a fact that the demand of the immediate user of producer's goods exercises a rigid control over the maker of producer's goods. The manufacturer who buys raw materials, fabricating goods, accessory goods, and installation goods, is an exacting buyer, and his methods are as scientific as it is possible for expert purchasing agents to make them.

Broadly speaking, such a buyer attempts to use six methods in his purchasing, each one of which has a direct influence upon the maker of these producer's goods.

In the first place, the attempt is made to buy producer's goods at the "correct" time of

the market. Under uncontrolled conditions the heaviest purchasing by the average user of producer's goods would normally be done at the high points of the market, and the lightest purchasing at the bottom or near the bottom of the market. The scientific purchasing agent seeks to control this process and reverse it by making large purchases near the bottom of the market and small purchases near the top. To the extent that the individual purchasing agent achieves this aim he gives his company a competitive advantage over other companies which give this matter little attention. As more individual concerns adopt this practise, purchasing peaks tend to be leveled and the manufacturer of producer's goods is enabled to adopt a more even production schedule.

Again, the scientific purchasing agent attempts to buy at the correct price at the time the purchase is made. He does not accept the idea that competition always gives the proper purchase price. He knows that by studying the relative costs of raw materials used in the manufacture of such producer's goods as fabricating goods, accessory goods, and installation equipment; by considering the cost of labor involved, and by making a fair allowance for general expenses and a reasonable profit, he can in an increasing number of cases indicate to suppliers

that quotations are not correct and that price revisions are in order.

The standardization of materials and supplies is also practised by the scientific purchasing agent. Almost continually he is engaged in analyzing the items which he buys with respect to class, quantity, and exact qualities. He keeps in close touch with his concern's technical and research experts, and is guided by them in his purchases as their efforts discover or adapt materials and their uses. He joins a trade association, the National Association of Purchasing Agents, and subscribes to a campaign for the adoption of a Standard and Simplified Invoice Form and a National Standard Vender Catalog. All these efforts tend to enable the manufacturer of producer's goods to judge his markets with respect to kinds of goods desired with considerable accuracy and precision.

The scientific purchasing agent also attempts to achieve a centralization of buying which has as one of its corollaries buying in quantity. He tries to avoid breaking down his opportunities of quantity-buying by distributing too largely his requirements among several or many sources of supply. He knows that one or two contracts for large quantities of a specific item over a long period will result in better prices and services than a large number of small contracts for the same item. Consequently, he appreciates

and increasingly uses long-term contracts with his suppliers. This tendency enables the makers of these supplies, in turn, to apply a considerable amount of business judgment to their own problems of purchasing. They also find it possible to purchase materials in quantity and at the proper time of the market.

Finally, the buyer of producer's goods gives a good deal of thought and attention to the cost of bringing equipment, materials, and supplies from the point of production to the point of use. The modern purchasing agent attempts to formulate, roughly, at least, geographical zones of production which may be called upon to serve certain geographical zones of need. This practise tends to develop a new type of competition in that there is competition between zones of production rather than between individual producers. At the same time there is considerable opportunity for the reduction of freight rates.[21]

In spite of the less direct and immediate influence of the individual or household buyer of consumer's goods upon the production of producer's goods, that control always exists. It may be passive for a time, and then suddenly active. In an age of hand-to-mouth buying, overstocked retail shelves very quickly mean overstocked wholesale warehouses and a sharp and large reduction in the purchase of producer's goods. Then the maker of producer's goods is forced

either to accumulate dangerous inventories in order to keep his factory wheels turning, or to stop production for a costly period of time and readjust his equipment and methods to the problem of manufacturing other types of goods.

Thus, the individual and household consumer, with all his biological and psychological idiosyncrasies, is the final judge of production.

## XI

## THE RÔLE OF THE GOVERNMENT

THE first function of government is protection. The primary aim of the government is, or should be, to protect the group which is under its care from other groups that war upon it, to protect the group from the individuals in the group, and to protect the individuals from the group and each other.[1] Predatory doings must be inhibited. The second function of the government is the promotion of the general good, a function which in its extended meaning perhaps includes the first. It is used here, however, in the sense of the actual creation of conditions which are conducive to the best interests of society rather than in the sense of any determination and indication of what may or may not be done in the pursuit of self-interest. The third function of the government is the regulation of the specific modes of conduct of individuals who are similarly situated. This function aims to standardize and to indicate what must be done by stated parties in stated relationships with other parties. So considered, government may be defined as an institution which protects, promotes, and regulates the other institutions of the society which is under its political jurisdiction.[2]

So far as the form of our government is concerned, we are, of course, politically committed to what Disraeli stigmatized as "that fatal drollery called representative government." Under the prevailing representative system, our government struggles toward the protection, promotion, and regulation of the "general good" on the theory that the will of the majority is a working formula that in the long run will result in the "general good." Unfortunately, the widespread right to vote is indifferently and negligently used. The will of the minority too frequently prevails. While it may be the self-seeking will of a small minority, yet it is usually a cautious will. And it is cautious because of democracy. The minority may often assume with accuracy that there is no widespread and positive mass opinion on a particular problem.

> Yet slumbering power is there, in the ballots of the masses; and those who govern must be wary not to arouse the heavy sleeper in respect of those relatively few matters political that are within his interest and his comprehension. In theory the rule of the people is the driving force of the ship of state. In usual practise it is far more comparable to a mildly retarding head wind. The driving force is a thing of great complexity and some mystery operating in the deep, dark bowels of the ship.[3]

Many of our realistic critics of representative government are quite positive that in its larger

tasks democracy is doing a poor job. Too often these critics take little account of the amazing multiplication and the bewildering variety of democracy's problems. Hence they hurry the application of the adjective "poor," and fail to recognize the relative differences of capacity and control that exist in the whole sweep of governmental relationships to the problems of society.

One phase of the enlarging burden which rests upon our government has been brought about by the growing complexity of modern business and its increasing reliance upon the government. The question of the proper relationship between business and the government is an ever-present and troublesome problem. In our democratic laboratory we are experimenting with theories of relationship which will fit in with the aims of government and still preserve individual incentive. Some of our experiences of the past generation have been unfortunate. They have revealed the fact that too much governmental intrusion upon the affairs of business inevitably implies, especially in a democracy, "the most dangerous temptations to bureaucracy and demagogy."[4]

The whole problem of the relationship of government to business is not new, nor is it exclusively characteristic of our representative government. Most of the world's national governments have been wrestling with it for centuries.

How vital it is that government shall attempt intelligently to determine what it may do to stimulate business or to suppress and stifle it is shown by the experience of Russia.

> At the Geneva Conference in 1921, pleading for international help and pleading that their industries were prostrate, Russia made the official statement that this great agricultural country had sunk under government direction to 12 per cent. of agricultural implements production and 6 per cent. of plow production as compared with pre-war conditions; this, in a country equipped with coal, iron, oil, timber, and idle labor.[6]

In essence, an improper governmental relationship to business and industry succeeded in breaking down individual incentive and effort. The unsound projection of the governmental aim into the business of Russia has caused that great agricultural country to call upon the outside world for food to fight its famine twice since the armistice.

In our country, the control of government over the conduct of business has been rather largely limited to an attempt to maintain full and free competition and to maintain that competition on a high plane. In carrying out this general attempt the government, of course, relies upon laws or rules of conduct which it promulgates and enforces. In our nation, the foundation of law is the Constitution, which

delineates the structure and powers of the government as well as the rights, privileges, prerogatives and exemptions of both citizens and aliens. These fundamental guaranties and prescriptions may be "elaborated or given effect," but they may not be abrogated or abridged by statute.

The two main forms of law are common law and statute law. Common law began more than a thousand years ago in England, growing up out of the "usual practises" of the land. It has changed and expanded throughout the years and still prevails on a wide scale. Common law is sometimes called "judge-made law" or "court-made law," but it is essentially law that grows out of the customary practises of a people. The judges merely render decisions in accordance with these customs or practises.[6] Under agrarian and handicraft conditions "judge-made" law provided tolerably sufficient social control. But with the expansion of business and the increasing complexities of business relationships the system of common-law control became far from adequate. As a system, it is intensely individualistic. Under the rules, every individual is the guardian of his own rights and must suffer the consequences if he fails to assert his rights. Consequently, statute law became necessary.

Statute law supplements common law. It may bring together into one code various parts of

the common law, so that everyone may be clear with respect to the law. It may destroy an obsolete portion of the common law or it may lay down rules concerning a new problem on which common law has not had time to develop. The onward press of statute law has not usurped the entire realm of common law, but it has been the natural result of insistent social demands expressed through the government.

> The old law of private nuisance, for example, depending on suit by one aggrieved and proof of specific injury to him or his property, gave inadequate protection either to the individual or to the public. It had to be supplemented by the law of public nuisance. Merely to commit an act that might lead to or constitute this or that nuisance was made an offense. No proof of injury to anyone was necessary.[1]

In the highly developed business economy of the moment, statute laws are multiplying with perplexing rapidity. "Mass production is as characteristic of some legislative mills as it is of industrial factories." Business management as never before must be guided by expert legal advice. By means of statute law, the government has extended its efforts at social control through the whole framework and organization of modern business and its activities.

Moreover, the government has seemingly realized the impossibility of guiding and controlling

he intricate relationships of business by means of the courts and the law-makers alone. Common and statute law cannot be elaborated quickly enough to meet the speed and variety with which business relationships change. Individuals in society are really impotent when it comes to enforcing their legal rights against large-scale business enterprises. The courts are organized to settle controversies. They are remedial institutions and not preventive agencies. Consequently, the government has established many preventive agencies of mixed powers, legislative, executive, and judicial, through which it attempts to make more effective its social control of business enterprises and their operations.

This development of governmental control by law and by administrative agencies is highly significant in a number of respects.

> First, while individuals initiate some of the "cases" before these agencies, the agencies themselves, on the basis of their own fact-finding, initiate many others. Second, the persons or enterprises subject to control are put under the requirement to secure advance permission for many performances. Third, and most important, if litigation of rights ensues, the parties to the controversy are, at least in theory, appropriate parties. It is not the suit of a Lilliputian against a giant; it is a controversy between a giant and an agency of government acting in behalf of a horde of Lilliputians.[8]

Obviously, it would be impossible here to discuss any large number of the statute laws, local, State, and National, or to describe all the agencies through which government exercises control over modern business. All that can be done is to indicate some of the more important restrictive (protective), promotive, and regulative efforts of the government.

The restrictive activities of the government are essentially negative in character. They are concerned with prohibiting certain lines of conduct, with specifying what not to do. The prohibitions which the government sets up are intended to prevent "any person from depriving another person of the liberty and property rights conferred upon him by the Constitution." The anti-trust laws are statute laws which express this type of restrictive governmental control.

The first important Federal anti-trust law was the Sherman Anti-Trust Act of 1890. By their rapid growth, the "trusts" seemed destined to control the whole economic organization of the country. The idea of monopoly has always been repugnant to the American people, and the trusts were regarded as monopolistic and highly dangerous to the freedom of competition. Public opinion quickly demanded protective legislation, and the Sherman Act was passed. The two most important sections of the act are as follows:

SECTION 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy, shall be deemed guilty of a misdeameanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SECTION 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

At first this drastic law had little effect. Few ases were started, and, except in very minor ases, the law was not used until 1904. In 1911 he Standard Oil Company was declared in 'restraint of trade'' and was ordered to dis- olve. Shortly afterward the American Tobacco Company was also dissolved.

In 1914, the Clayton Act was passed with the urpose of defining more clearly the meaning f the Sherman Act. This new statutory legis- ation prohibits local price discrimination, tying

contracts, holding companies, and interlocking directorates. These practises are definitely declared to be acts of unfair competition.

In the same year, 1914, one of the government's most important agencies of control was established by the enactment of the Federal Trade Commission Act. The commission is composed of five members appointed by the President with the advice and consent of the Senate. The members hold office for seven years. The commission has wide powers of investigation either on its own initiative or on complaints brought to it by interested parties. It reports to Congress and submits legislative recommendations. It employs a number of investigators and examiners who look into the merits of complaints or initiate complaints. The commission states its charges in the complaint and requires the business enterprise which is under investigation to file an answer—to establish its innocence by evidence. If the commission's Court of Review decides that the complaint is valid, the commission usually issues an order to "cease and desist." In case the order is not obeyed, the commission applies to a Federal court for support. In a majority of instances the commission has been sustained by the court. This governmental agency is obviously a preventive agency of control rather than a punishing agency. It is charged with the task of prohibiting business

ethods which are "characterized by deception, ad faith, fraud, or oppression, and methods re- arded as against public policy because of angerous tendency unduly to hinder competi- on or create monopoly."

During the year 1923, the commission con- dered fifty-eight complaints involving false and isleading advertising, thirty-one complaints in- olving resale-price maintenance, eleven com- laints concerning the passing off of a com- etitor's name or goods, ten complaints with re- ard to price-fixing, eight complaints of mis- randing, three complaints charging conspiracy injure competition, three complaints with re- ard to disparagement of competitor's name or oods, and sixty-seven other charges ranging rom coercion to combination to effect monop- y.[9] This variety of activity shows that the ederal Trade Commission is intimately con- erned with the fairness or unfairness of busi- ess methodology.

The commission has also made many detailed nvestigations which have provided a store of nformation on business organization and prac- ses. Among others it has published reports on ne grain trade, including future-trading, meat- acking, book paper, news-print paper, flour illing and jobbing, sugar supply and prices, nd wholesale marketing of food. Recent in- estigations have dealt with advertising agency

practise, the assembly of opinion on resale-price maintenance, and chain-store methodology.

It would be impossible to enumerate all the statutory legislation of a restrictive nature. Local, State, and Federal laws of this type exist by the hundreds. They are being added to continually and will grow in number until we work out an economic Eden, if that is possible.

The promotive efforts of the government are also many and varied. In a country as large and as busy as our own, there are many opportunities for the government to be of invaluable assistance to business. Problems there are a-plenty. Financial panics hung over our business heads for years. Epidemics of cattle diseases wipe out livestock growers. The boll weevil ruins the cotton crop. The Japanese grub and blister rust destroy a forest of lumber. The Mediterranean fruit-fly works havoc with anticipated citrus profits. The lack of proper shipping facilities reduces our merchants to dependence upon foreign carriers. The shallow waters of the inland rivers retard the development of the hinterland. The inrushing flow of foreign-manufactured goods swamps our markets with cheap offerings. Such are just a few of the problems with which government may be concerned and toward which promotive measures may be directed.

The United States Department of Agriculture, ith its eleven active bureaus, is an important gure in our government's promotive program. tatistical information on the condition of the arkets and estimated production as well as eather forecasts are continually sent to the ation's farms. Information and advice in farm roduction and scientific animal husbandry are iven to the farmer by technical experts. When ie potatoes show signs of blight or when the ogs are sick, agricultural specialists pay the rmer a visit, determine the cause of the evils id aid in their eradication. When seed is short ie government supplies it. When it is discovered iat the Mediterranean fruit-fly is destroying ie orange, lemon, and grapefruit crop of lorida and is spreading its ravages to the north id west, the government sets up a fund of 28,000,000 to fight the pest. For ten years, gov-rnment tree specialists have been studying the iestnut blight in an attempt to save the few emaining chestnut trees. The government's war gainst the boll-weevil, costly and extensive as is, continues to go forward.

The Department of Commerce keeps Ameri-n business managements thoroughly posted on ie condition of foreign markets. It aids them in reign marketing methodology and keeps them dvised of trade and investment opportunities. he Department of the Interior maintains the

Patent Office and the Bureau of Education. It conducts reclamation projects which require the expenditure of millions of dollars in making swampy, woody, and malaria-ridden land ready for habitation and cultivation.

This enumeration of promotive governmental services could be carried on almost indefinitely, but enough has already been said to indicate something of their number and variety.

Perhaps the most spectacular promotive efforts of our government have been in connection with the establishment of such agencies of control as the Federal Reserve System, the Shipping Board, the Tariff Commission, and the Federal Farm Board.

The Federal Reserve Act was passed in 1913, and the banks were opened in 1914. The act divided our country into twelve districts, each of which has a central bank called a Federal Reserve bank. The entire system is under the guidance of the Federal Reserve Board, which is appointed by the President. All national banks are required to be "member banks" in the system, and State banks and trust companies may join the system by complying with certain conditions. The stock of each Federal Reserve Bank is owned by the member banks in its district. The board of directors of each regional bank is composed of six directors elected by the member banks and three directors ap-

ointed by the Federal Reserve Board. None of e twelve Federal Reserve Banks are run for rofit. After six-per-cent. dividends have been aid and conservative surpluses have been built p, any additional profits go to the Federal overnment. The Federal Reserve banks are lled banker's banks, because they lend to and ceive deposits from member banks. They do ot deal with individuals. Member banks are quired to keep definite reserves with their re- onal bank, thus forming a pool and mobilizing ese reserves for effective transfer from one nk to another in times of crisis. Member banks e privileged to rediscount eligible commercial per with the regional bank, or, in other words, ay sell to the Federal Reserve Bank of the strict commercial paper which they have pur- ased and on which they wish to obtain cash. This act unquestionably provided a desirable asticity to the nation's bank-credit resources. In the opinion of most students of the question, has thereby secured a steadier and more con- tently uniform proportionality between goods d services currently produced or rendered and e purchasing power available to the mar- t."[10] Moreover, since the system is not erated primarily to make profits, it should nd to grant credit more in terms of business elfare than would be possible under a system more individualistic business banking.

The United States Shipping Board was author ized by an Act of September 7, 1916. Funda mentally a war measure, the Board was designe as a part of the administrative machinery t promote the development of an American mer chant marine and to regulate foreign and do mestic shipping. Under the direction of thi board and the Emergency Fleet Corporation, th tonnage of American vessels in foreign trad increased from 2,191,000 tons in 1916 to 16, 324,000 gross tons on June 30, 1920. After th war, because of what seems to be the lack o any definite governmental policy, the Shippin Board has been gradually passing the whole jo of promotion over to private enterprise Whether the benefits derived from this promo tive effort of the government outweighed o even balanced the enormous expenditures whic were involved is a moot question. It is cited her merely as an example of promotive effort. Essen tially the whole program was a war measure.

Tariff legislation was first enacted in thi country in 1789 as a promotive measure Changes and amendments in this legislation hav been the cause of bitter word-battles and scath ing polemics ever since. The supporters of protec tive-tariff legislation present, in the main, th "revenue" argument, the "infant industries' argument, the "war" argument, and th "wages" argument. Customs returns are larg

nd easily collected. Infant industries must be ssisted to develop to a point where they can ompete with foreign competitors. A tariff inders foreign trade and makes a country bet- er prepared for war, because it is necessarily nore nearly self-supporting. A tariff enables pro- lucers to keep prices up and consequently helps o make high wages possible. On the other hand, he opponents of protective-tariff legislation ffer, in the main, the "balance of trade" argu- nent, the "geographical specialization" argu- nent, and the "equality" argument. Since ex- orts and imports in the long run must be equal n value, the tariff is a limiting factor which vill limit exports as well as imports. It is wise or nations to produce the things they are best tted to produce and for them to exchange nese things in foreign trade rather than to ttempt to produce all things. The tariff bene- ts the manufacturer, but hurts other classes nd is an act of special privilege.

Various tariff boards and commissions have unctioned at one time or another in the inter- sts of tariff revision by more "scientific" nethods. The act of September 8, 1916, provided or a Tariff Commission of six members. Some f its powers and duties are as follows: to in- estigate matters relating to tariff administra- on; to study the fiscal and industrial effects f the operation of our tariff laws; to investigate

tariff regulations with foreign countries; to study the conditions of competition in foreign trade; to summon witnesses and otherwise to assemble information. Under the Fordney-McCumber Act of 1922 the flexible-tariff idea was introduced, and the President was given power to raise or lower rates by an amount not exceeding 50 per cent. upon recommendation of the Tariff Commission.

Of all the promotive projects of our government, the question of tariff legislation is the one which arouses the most rabid partizan approval or disapproval. Our experiences with tariff legislation, however, are summarized in the following statement without partizan bias and with careful regard for the facts:

> In general the tariff acts have been hastily and unscientifically drawn. With the exception of one or two instances it has been almost impossible to obtain a clear-cut decision from the electorate, because the tariff has been so entangled with other political issues. It has furthermore been impossible easily to determine at just what point, if at all, an industry ceased being "infant" and no longer needed protection. It is obvious likewise that in making tariffs the lobbies desiring protection were always stronger and more vocal than those opposed. Furthermore, the tariff commissions, however "scientific" they were supposed to be, somehow had a protectionist complexion under Republican administration and the opposite under Democratic. At

the same time, it is apparent that the nation, as the years have passed, has become more favorable to a high tariff."

The most recent large-scale promotive undertaking by the government is the establishment of the Federal Farm Board with ample powers and adequate money to work out an effective program of farm relief. The board is created primarily to work out a strong marketing policy and to assist the cooperative associations in becoming self-supporting and self-directing. This board is in the process of formation at this writing, so that exactly what its specific program will be cannot be indicated here.

It is unnecessary to mention any more of our government's promotive efforts on behalf of business, but it should be said that our city, county, and State governments are engaged in such efforts as well as the Federal government. The roads, bridges, and canals constructed by the government are examples of these promotive projects. The business of commerce, industry, and agriculture is the life-blood of our nation. It is certainly the province of our local, State, and Federal governments to keep this blood in good condition.

The regulative efforts of the government are essentially affirmative in character. They specify modes of conduct which must be adhered to by specified parties in specified relationships with

other parties. Prominent among the government's regulatory provisions are the Pure Food and Drugs legislation and the regulation of the common carriers engaged in interstate commerce.

Upton Sinclair's book *The Jungle* brought to the attention of the entire country the conditions existing in the packing houses. Commissions were appointed to investigate these and other industries in which foods and drugs were handled and packed. The reports of these commissions were little less than astounding. In one State alone ninety per cent. of the meat markets were discovered to be using chemical preservatives. Chipped beef was preserved with borates. Mushrooms were bleached by sulfates. Canned peas were put up in solutions containing copper salts. Butter was adulterated with margarines and preserved with formaldehyde. Over 150 patent preservatives were on the market and were guaranteed to keep meat, fish, and poultry fresh without ice. More "pure Vermont maple syrup" was sold than all of New England could produce. Patent-medicine "cure-alls" fed and flourished on the credulity of the ignorant. There appeared to be no limit "to the mendacity of the advertising, the viciousness of the formulæ, the baby-killing, the habit-forming, constitution-wrecking character" of the whole sweep of patent-medicine manufacture and distribution.[12] Soothing syrups contained opium. Cocain was

an important ingredient in catarrhal powders.

Legislation to check the sale of adulterated foods and drugs was introduced in Congress as early as 1902, but was repeatedly shelved. It took almost four years of exposure and agitation before the Pure Food and Drugs Act finally became the Federal law of the land. The act forbids "false and misleading" statements on labels or on the doctrinal matter which surrounds the package. It provides that eleven drugs or their derivatives "shall be stated on the label if they form any part of the ingredients of the package." These drugs are: alcohol, morphine, opium, cocain, heroin, alpha-eucain, beta-eucain, chloroform, cannabis indica, chloral hydrate, acetanilid. Under the efficient administration of the Bureau of Chemistry of the Department of Agriculture the evils existing in the manufacture and preservation of foods and drugs have been largely reduced.

An exceedingly important regulative agency or commission was established in 1887 by the Interstate Commerce Act. The Interstate Commerce Commission was created to inquire into the business of common carriers, to require testimony and attendance of witnesses, and in general to regulate interstate transportation. Early decisions of the Supreme Court limited the power of the commission, but the Hepburn Act of 1902 and the Mann-Elkins Act of 1910 re-

stored and extended its power. The commission may "determine and prescribe" just and reasonable maximum rates; it deals severely with discrimination, and it requires uniform methods of accounting. Its jurisdiction includes not only railroads, express and sleeping-car companies, and pipe lines, but telephone, telegraph, and cable companies. The word transportation is given a broad meaning and includes "all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage, and handling of property transported." The activities of the commission have been of inestimable value in establishing affirmative codes of conduct for the common carriers and in regulating the relations between these carriers and business enterprises on a basis of fair competition.

In addition to these two outstanding examples of governmental regulation, there are, of course, hundreds of other similar legislative provisions and regulatory agencies. Local and State laws also specify definite modes of business conduct. Child-labor laws, minimum-wage laws, workmen's compensation acts, industrial safety acts are only a few. State warehouse commissions and public utility commissions are governmental agencies charged with a regulatory purpose. The complete list is much too long to be reproduced here.

Finally, it should be remembered that the vernment itself is engaged in conducting some the nation's most productive activities. The vernment owns an enormous amount of prop-ty, employs about nine per cent. of all wage-d salary-earners in our nation, and pays about ght per cent. of the current income of indi-duals.[13] Generally speaking, the productive rvices which the government assumes and per-rms are those services in which management r profit is thought impossible or incompatible th public welfare. They range from the man-ement of the forests through a long list—e improvement of rivers and harbors, the rec-nation of waste lands, the building of canals, e public defense and domestic order, the whole nting and monetary system, flood control, and e handling and distribution of the mails.

Broadly speaking, the purely restrictive efforts the government intensify the conflict between cial and private ends, for they protect the in-vidual rights of liberty and property as set in the Constitution. The promotive and regu-ive efforts of the government on the other nd tend to integrate the social and business ns, because they establish conditions which ake it possible and necessary to make money making goods.[14] The extent to which the vernment will assume productive responsibil-es through government ownership and opera-

tion will undoubtedly depend upon the behavio of those business enterprises now conductin activities which are "affected with a publi interest." So long as the public interest is wel served under regulated private interest it i unlikely that the government will undertake an elaborate productive project which can be car ried on by private capital. Abuse of the publi interest alone brings about extensive and in tensive regulation, and abuse alone will be re sponsible for any future expansion in the gov ernmental ownership and operation of produc tive enterprises which are now being carried o by private business ownership and management

## XII

### MANUFACTURING

THE typical business enterprise in our modern echnology is rigorously scientific in its control f the manufacture of goods. The products of arming, logging and mining are seldom ready or consumption as they come from the basic roducer. With such outstanding exceptions as resh vegetables, fruits, nuts, eggs, and milk, lmost every basic material must be changed in orm before it is used. Vegetable and animal roducts, such as cotton, flax, wool, and hides ave to be made into cloth, clothing, and shoes. ogs must be sawed, planed, cut, and joined ogether in various patterns. Oil must be cleaned nd refined. Iron, copper, zinc, and lead rarely each the "ultimate" consumer in the form of aw material. This process of changing the form f a raw material is called manufacturing. In an ge of power-driven machinery, the technique f manufacturing is one of the most important f all business techniques. The direct influence f power and machinery, of course, has not been niform throughout the whole spread of busi- ess activity. It has been of the greatest signifi- ance in manufacturing and transportation, and

of the least significance in agriculture and in the handling of goods in trade.

According to the *Census of Manufactures* of the United States Bureau of the Census, some 290,105 manufacturing establishments were in operation in this country in 1919, employing a total of 9,096,000 wage-earners. These establishments represent some 358 different manufacturing industries. To list these varied types of activities would require many pages and would prove to be a tiresome enumeration. Moreover, our concern is with the problems and techniques of manufacturing control. Accordingly, we need a convenient but less detailed type of manufacturing classification.

From the point of view of the problem of control, manufacturing industries may be divided into three general types: the progressive or continuous-flow type, the synthetic or repetitive-process assembling type, and the non-repetitive process type. This classification, of course, is more useful than complete. Every manufacturing enterprise will not fall accurately into one of these classifications, because an individual enterprise may involve more than one type of process. Nevertheless, the technique of manufacturing control can best be understood by directing our attention to this classification.

The progressive or continuous-flow type of manufacture exists wherever the raw material

hich is brought into the plant is worked or rocessed in successive stages until it emerges s a finished product. This method of manufacure is perhaps the simplest of all. It is the nly feasible method to use when the materials hich are to be worked lose none of their essenal elements in the fabricating and gain none f the essential elements of another product. he changes that take place are only changes in ne chemical or physical properties of the raw aterial. Our paper-mills are good examples. pruce logs are taken in at the genesis of the rocess, are stripped, cut, pulverized, bleached, olled and recut, and finally emerge in the storeoom as ton rolls of newsprint. Stamp-mills also urnish an illustration of this process. Ore is rought into the plant and passed through the ough-crushing rolls. Next, it is taken to the tamps and the concentrators, where the light articles of rock are removed. It then passes to ne grinding pans, where it is reduced in fineess and is then sent on to the clean-up pans to ettle. The pulverized pieces of rock ascend to the op and are removed. Finally, the refined ore is oured into retorts and cast into ingots. Other ndustries employing this type of manufacture se materials which are combined in the processng. The combining of clay and limestone in cement factories is an illustration. The outstandng characteristic of this type of manufacture is

that the materials flow on steadily from one department to the next. There is no doubling back to the same department for retreatment. Each process room sees the material but once.

The second type of manufacturing process, the repetitive or synthetic, presents a different situation. In this process, varied parts are brought together and assembled into units which are turned out perhaps by the thousands. The same work is done again and again, over and over. The parts which are combined to form one unit may be purchased from other plants or manufactured in the factory. The Ford Motor-Car Company illustrates the process. Thousands of parts which are manufactured in the various specialized plants are brought to the assembly plant, where they are added together until a car is the result. There are numerous subassembly rooms in which the parts of the steering gear or the rear axle, for example, are put together. But the compound units from each of these subassembly rooms are added together in the main assembly room. Most industries engaged in manufacturing machines fit into this category. Their raw material consists of parts. Their work is the assembly of these parts into a lathe, a telephone, an electric fan, or whatever finished commodity they furnish to the market.

As the name indicates, the non-repetitive type of manufacturing is carried on in those indus-

tries where the same article is rarely turned out more than once or a few times. Different work is done at different times. The amount of work, the nature of work, and the system of processing is varied. Manufacturing plants that turn out products only on order are examples. In the shipbuilding industry, this process obtains. Each ship is constructed on order and according to the specifications laid down by the purchasing company. One may be a 20,000-ton ship and another a 5,000-ton ship. One may be constructed for coastwise service and another for transoceanic trade. The amounts and kinds of raw material needed vary from ship to ship. Repair shops are also examples of this type of manufacturing. The machines and tools received for repair differ greatly. No two jobs may be of the same nature. Boiler factories and furnace factories are also in this category. Unlike the possible practise of the two preceding types, the non-repetitive process industry does not use a continuous and similar amount and kind of raw materials or parts. The amounts and kinds which may be purchased must be governed by the type of order secured.

While these are the principal types of manufacturing processes, it does not follow that every factory or every industry can be neatly and exclusively fitted into any one of these classifications. Many establishments carry on both the

repetitive and non-repetitive processes. Some carry on the repetitive and the synthetic assembly processes. Many, of course, turn out a diversified group of products. Moreover, some plants are equipped mainly with the idea of versatility, with the end of flexibility in mind.

Now, the principal technical problems with which any manufacturer has to cope are five in number. They have to do with design, equipment, materials, operation, and control.

In the province of design, both the product and the plant which produces it are involved. The size and shape of the factory building, the type of machine construction, as well as the substance, size and shape of the finished product, must be carefully planned. Standard designs must be set up so far as is possible both for the unit product and for each element of the whole in the case of the assembled product.

The necessity for standardized machines and tools and for standardized machine and tool conditions should be obvious. Equipment must be accurately provided and carefully kept. The factory building, too, must be included in the term "equipment" as well as the power plant. Machines, tools, power plants, and factory buildings must not be allowed to deteriorate and must be controlled in the interests of efficiency and economy.

Materials, too, must also be controlled and

tandardized so far as possible as a corollary f standardization of the product and its parts. Whether the materials are manufactured in the lant or purchased from the outside, they must e available in the right quantities, in the right ualities, and at the right times.

Manufacturing operations are carried on by orkers and machines, by workers and tools, nd by workers and chemical agents. Much anual labor may be involved or little. Whatver the situation, the problem of controlling ne worker as he acts in conjunction with the rocessing instrument is an important probem. Methods of work need to be standardized n the performance of a sequence of operations, ut need not be pushed too far down into the erformance of a detail operation.

The whole technique of design, equipment, aterials, and operations has to be studied, lanned, directed, and checked (watched). All ne foregoing manufacturing elements must be ontrolled in the interest of efficient and ecoomical production. This control may be accomlished in different ways in different industries nd may necessarily stress one element more an another. Nevertheless, it must be effected.

The proper coordination of design, equipment, aterials, operations, and control constitutes the ork of the factory production department. All ese factors must be so coordinated as to re

sult in the manufacture of the finished goods with a minimum expenditure of labor, power, and materials, and with the least possible wear and tear on the machines and tools.

The organization of the production department for the purpose of effecting such a coordination is exceedingly important. A system of relationships must be set up among the things to be done, the means of doing the things to be done, and the doing persons.[1] Of necessity, the types of organization used in the production departments of different industries will be somewhat varied. There appears to be little reason, however, for the amount of variation which sometimes exists. Ten factories of approximately the same size which are engaged in the manufacture of the same types of products should not require ten sharply-differentiated and individualistic types of organization. Ten such systems can hardly be of equal value.

The organization of the production department should be a matter of careful study and continuing experiment. After its initial set-up, changes may be necessary from time to time until maximum efficiency is reached. The forming of an organization is, in part, a process of analyzing purpose, means of achieving the purpose, and responsibilities to be assumed by persons in utilizing the means, in an effort to discover and delineate the system of relationships inherent in

the enterprise.[2] It is, in part, a process of continued study, experiment, and test in an effort to improve the original discovery.

The oldest type of organization for manufacturing is the "military," "line," "fractional," or "numerical" type. This kind of organization is as old as the factory itself. Under such a system, workmen report to a companion worker called a foreman. The foremen report to the factory superintendent, who, in turn, reports to the general manager. When a certain task must be performed, the general manager issues orders to the superintendent, who calls in his foremen or personally repeats the order to each foreman, sometimes subdividing the work among different groups. The foremen then carry the orders to their respective groups of workers. This "military" or "line" type of organization provides an excellent system for the giving of orders and for the fixing of responsibility. However, it is not adapted to an economical specialization of labor. As business grows, factory superintendents and foremen fall short of the all-around knowledge, skill, and training which are necessary.

Hiring men, teaching them, settling disputes, repairing machinery, ordering material, planning the current work—these are a few of the duties that may require the foreman's attention, all at the same time, and as Sir Boyle

> Boche observed, "No man can be in two places at once, barrin' he's a bird."[3]

The pure "military" type of organization has no place for such experts as engineers, chemists, research workers, etc., and such experts become increasingly necessary. Consequently the "military" type is soon modified.

The functional type of organization is the outgrowth of the "scientific management" movement. While most types of organization are functional in their broad aspects, the term "functional organization" involves the distribution of tasks in such a way as to give each worker and supervisor as few distinct and separate duties as possible. Duties are assigned to those who are especially fitted to perform them. Instead of each worker being responsible to one foreman he may work under several foremen at the same time.[4] Each functional foreman directs that portion of the worker's task which he is trained and adapted to direct. The Taylor system, for example, sets up eight functional foremen as follows: the route clerk, the instruction-card man, the gang boss, the speed boss, the inspector, the time-and-cost clerk, the repair boss, and the disciplinarian. These functionalized foremen report to the engineer, the superintendent, and the chemist, all of whom, in turn, report to the general manager. The advantages of the functional type of organization lie in the

efficient methodology that can be developed and the maximum use of specialized knowledge. The disadvantages are a tendency to overspecialize, the difficulty of coordinating the many separate functions, and the difficulty of centering responsibilities and handling matters of discipline.[5]

The line-and-staff type of organization is a combination of what seem to be the best features of the line and the functional types. In this system of organization, authority flows from the top to the bottom as in the line type. Duties and responsibilities are definitely fixed so that discipline is insured.[6] In addition to the regular line officers, however, there is a staff of specialized experts. These experts study and work out the problems relative to the performance of the activities with which they are concerned, no matter where these activities must take place in the business enterprise. The recommendations and directions of the staff officers are considered and adopted or rejected by the line officers, who carry the adopted recommendations and directions down to the worker. The staff or service officers, who are in charge of such divisions as power and maintenance, inspection, and production engineering, assist and support the line or operating division. Each staff expert works in his own specified field and does his part in relieving the line or operating officers so that they are free to devote all of their time and

efforts to their particular function, the actual making of goods.[7]

Generally speaking, the line-and-staff type is the favored type of organization. It seems to offer the greatest possibilities and the best provision for planning, performance, service, and study. In the customary organization of the manufacturing department, the Director of Manufacturing heads up the Operating Division (Line), the Power and Plant Division (Staff), the Inspection Division (Staff), and the Production Engineering Division (Staff).

The Operating Division is in charge of a General Superintendent or Production Manager. It is concerned with the actual making or fabricating of the product. It will be divided into as many sectional units or "shops" as the work of the factory makes necessary. There may be a forge, a machine shop, a paint shop, an assembly room, and so on. A foreman is usually in charge of and responsible for the work of a shop or sectional unit.

The Power and Plant Division is usually in charge of the Works Engineer. This division is responsible for furnishing to the shops an adequate and constant supply of steam, electricity, gas, compressed air, and water. It also performs those services which may be necessary to maintain the machinery, equipment, building and grounds in such condition as will permit the

lant to be operated at the highest practical oint of efficiency.[8] Machinery and equipment ust be frequently inspected, repairs must be uickly and effectively made, and repair parts s well as tools to use in making repairs must be ept in stock.

The Inspection Division is usually in charge f the Chief Inspector. This division is responsi- le for the inspection of all materials and parts nd of all work in process. It must see to it that naterials and parts are up to standard and that he necessary accuracy of all operations on goods n process is maintained.

The Production Engineering Division is usu- lly in charge of the Production Engineer. This ivision is responsible for planning and for tudy. It has charge of the production research, ime-study work, motion study, standardization, nd all efficiency investigations. It generally has harge of the various storerooms for raw ma- erial, work in process, finished parts, and tools. t designs, tests, drafts, and estimates. Finally, t schedules, dispatches, issues work orders and nove tickets, and keeps the production records.

The organization of the manufacturing de- artment is used by management in the inter- sts of efficient, systematic, positive, and co- rdinated application of the available effort. The olution of the whole problem of production ontrol is neither easy nor simple. Consequently,

management finds it necessary to develop and use certain additional methods or devices, ranging from the use of a "differential rate" to the use of a time-clock.

These special control-devices which are used by management throughout the organization of the manufacturing department readily fall into two groups. They are commonly listed as: communicating aids, and measuring aids.

In the first group are such devices as internal telephone systems, instruction cards, move tickets, and so on. The purpose of these devices is to keep the management in communication with the workers. By means of them the workers learn the wishes of the management.

In the second group are the general accounting records, time studies, motion studies, tests of raw materials and finished production, inspection reports, cost accounting, and budgeting. The purpose of these devices is to check and test the accomplishments of the department's operation and thereby to provide a factual basis of control. Of all these measuring devices, cost accounting and budgeting are perhaps the most important. They should be discussed in brief.

The total costs in any business enterprise are made up of two items, the prime or direct or variable costs, and the supplementary or indirect or overhead or constant costs. One writer states the situation as follows:

The production cost is made up of direct costs plus the indirect costs. In addition to this production cost there is expense connected with selling and general administration, which is, of course, one kind of overhead cost. The production cost plus the selling and general administrative cost gives the total cost of making the goods. The difference between this total cost and the selling price is the profit.[9]

In the factory, the direct costs are those elements of cost which, entering into and forming a part of a product, can be charged directly to the product. In a shoe factory, for instance, the direct costs are the costs of leather, thread, cotton lining, nails, and the wages of the workmen who cut, sew, and nail. The first group is called the direct material cost and the second the direct labor cost. Obviously, these are variable costs. Their total is the result of the number of pairs of shoes which are manufactured, because each pair requires an expense for materials and for wages.

The indirect costs are those costs which cannot be directly charged to the product. Like the direct costs, they are divided into material and labor groups. Indirect material costs are charges made for materials which are necessarily used in the manufacturing process but which do not make up a component element of the finished product. Oil, supplies, scrap materials, and small tools are examples. The indirect labor costs are

the wages paid for supervision or foremanship, superintendence, repair workers, cleaners, and so on. But there is still another group of indirect costs, usually handled under the caption of "Indirect Expenses." Rent, insurance, taxes, interest, depreciation, maintenance, power, light, heat, over, short, and damage, and so on, are examples of indirect costs. It is not difficult to see that a very large element of indirect costs must be present in every factory where machines are largely used. Nor is it hard to understand that these indirect costs do not change greatly when changes occur in the volume of business. They are often called constant costs.[10]

The advantages of keeping a cost-record system are many. It prevents uncalled-for expenses or "leaks." As soon as costs are incurred, they show themselves in the records. They locate themselves, and wiping them out in future operations is simplified. When the market price of a commodity sharply declines, management knows from its cost figures whether or not it can continue to manufacture that particular product. The records show up the profitable and unprofitable items in the product line. They also gage the efficiency of superintendence and supervision. Thus the prime object of cost accounting is "to provide data which will facilitate control, data which will bring out weaknesses and failure in operation and give the executive

he information he needs in planning for the reductions of costs and an increase in operating efficiency." [11]

Budgets are also extremely important measuring aids, which management may use in controlling manufacture. In essence, budgets are merely devices of economic foresight, estimates of income and outgo for a coming period based upon records of past experience, present business conditions, and probable future trends.

The expenses of the factory are met by the money which is obtained from the sale of the product. Consequently, the sales budget is the starting point in any program of budgetary control. The sales department draws up its estimate of the amounts, qualities, and types of product that it can sell during the coming period. This budget may then be examined in the light of the factory capacity. After past sales records, present business conditions, probable future trends, and plant capacity are carefully considered, the sales requirements may be decided upon.

With the sales requirements as a guide, management next proceeds to consider the matter of manufacture from the point of view of having the goods ready for delivery when they are sold. It is necessary to turn out a certain number of finished goods each day. Moreover, reserves of finished goods must be made available in the

storerooms to guard against the unevenness of sales from day to day. To keep the factory producing from day to day and to insure ample reserves in the storeroom, the production department plans a schedule which is commonly known as the "finished goods schedule." Next, the materials budget is drawn up. The types and amounts of each item of raw material needed to produce the specified number of finished goods and the time when these items will be needed are included in this schedule. These estimates of materials required are handed over to the purchasing department so that it may consider inventories on hand and resulting needs in terms of market prices and trends of market prices. The labor budget must then be prepared and careful estimates must be made of the number and kind of workers required to produce the quantity of goods called for in the finished goods schedule. Now, labor cannot be piled up in storerooms in reserve amounts nor can it be purchased on a moment's notice. Consequently, the personnel group will necessarily consider the cost of hiring and training, the practicability of securing additional amounts of labor at definite times, and the possibilities of shifting labor from slack departments to busy ones. The overhead or indirect costs must also be budgeted. Supplies, tools, light, heat, power, rent, insurance, and so on, have to be carefully estimated. Finally, the

xpense and financial budgets may be drawn up. ıst as the production budgets depend upon the les budgets, so does the financial budget de- end upon all the others. All the budgets are nterdependent.

Obviously, a budget is a tool and is valueless nless it is effectively used. In itself, a budget oes not control. It is merely a measuring tool hich management may use. Generally speaking, ı effective use depends upon the following sentials: the careful statement of plans of each epartment for a given budget period, with timates of probable accomplishments and ex- enditures; a coordination of department esti- ates in a well-balanced program under which e company can operate as a unit, and a check actual performance against estimates to see hether or not each department is living up to s estimated accomplishments and within its timated expenditures. When these essentials e carried out much can be accomplished in the ay of executive control.

Through its organization of the manufactur- g department and by its use of communicating id measuring aids, management attacks the oblem of production control. Naturally, the ecific problems of control which are most im- rtant will vary from industry to industry and om factory to factory. Emphasis will need to placed on particular phases of control accord-

ing to the nature of the factory and its work. I we refer back to the three general types o manufacturing which were listed at the outse of this chapter, we shall be able to get something of a picture of the varying phases of contro which are important.

In the continuous-flow type of manufacturing establishment, the control of raw materials i exceedingly vital and important. The questio of whether or not the raw material which is use is as good or as cheap as it should be is a eternal question. On the side of technical proc essing, the question of whether or not a bette article can be fabricated at the same cost is al ways present. The problem has its answer i more or less continual study of machines, pro cesses, and workers. Then, too, there is the im portant problem of controlling by-products. I wastes can be made into by-products and i markets can be found for these by-products total costs can be considerably reduced by th profits from the sale of the by-products.

The continuous-flow industries furnish many examples of these problems of control. In th manufacture of paint, turpentine was an impor tant raw material. The steady rise in the pric of turpentine made its use almost prohibitiv in terms of direct material costs. Consequently a substitute was found which was cheaper an which served its raw-material purpose as well

n the linen industry, the process of fabricat-
ıg flax was so slow and expensive that linens
ould not be sold at prices which made possible
ıeir frequent use. Here, the process was im-
roved, the price of the finished product reduced,
nd the market expanded. The oil industry pre-
ents one of the most notable examples of the
rofitable utilization of what at one time were
egarded as waste elements. Uses have been dis-
overed for almost every element contained in
rude oil.

In the repetitive type of manufacturing, these
ame problems of control with respect to raw
aterials, processes, and waste products also are
resent in important degree. Other problems,
owever, are also vital. Matters of layout, plan-
ing, and dispatching are of considerable con-
ern in this type of industry because of their
ıfluence upon costs. The plant must be so laid
ut and the equipment so placed that the raw
aterials can be moved without duplication of
ffort. Any expansion of production with its
ıincident installation of new machines will
ecreate this problem again and again. Materials
ust be routed to appear in the right places at
ıe right times. Internal transportation systems
ust be scientifically devised and communica-
on aids must be freely used.

The non-repetitive type of manufacturing also
as its special problems of control. In this type

of industry the control of workmen, foremen, and superintendents is especially important. In the former type, the repetitive process industry, the amount of manual labor can be minimized. Machines and equipment perform most of the work, and since their processes are the same from day to day, the problem of control is not a baffling one. But in the non-repetitive industry the same work is seldom repeated from day to day. Here it is impossible to transfer the skill of the worker to the machine to the same extent. Hence the hiring, training, and supervising of men of initiative, judgment, and skill constitute an important problem of control.

Such is the range of special problems of control in the three most important types of manufacturing industry.

One more group of technical factors remains to be considered, the so-called physical elements of manufacture. These elements have been touched upon in the preceding discussion, but they need to be grouped and then considered as individual factors. The physical elements of manufacture are: plant location, layout, building, heating and ventilation, lighting, fire protection, and power. Frequently, manufacturers give too much attention to these physical factors to the detriment of organization and the development of the aids to effective production control. Certainly, any such emphasis is misplaced, for

ese elements are merely the factors which cilitate the manufacture of the finished prod-ct. They are of great importance, of course, ut they should not be glorified out of propor-on to other factors.

Very often the geographical location of a plant as an important bearing upon the probable ccess of the business enterprise of which the ant itself forms a part. Personal preferences whims have no place in the determination of ant locations. If factories are to be operated the interests of stockholders, their location ust be decided upon after careful considera-on of economic factors.

One of these economic factors is the prox-ity of possible locations to the sources of raw aterials. If a plant can be located at or near e point of production of the raw materials hich will be used, great savings in transporta-on costs can be effected. For this reason, paper ills have often been located close to the forests on rivers along the currents of which fallen gs can be floated. Likewise, blast furnaces are ten located near the iron-ore region.

Just as proximity to the source of raw ma-rials may represent transportation savings, so, o, does the proximity of possible locations to e markets. In and about most of our large ties are many manufacturing plants whose cations have been determined by the factor of

their nearness to the markets. In Detroit, for example, there are many plants which manufacture automobile accessories. They have located there primarily because the Detroit automobile factories buy all their accessory products. They believe that it is more economical to transport raw materials and parts than to transport finished products, in their cases, at least.

Another factor is proximity to power. In Norway, for instance, the aluminum factories are located far from their ores and their markets. But they are established on flowing streams which furnish them with power. Similarly, many steel and iron mills are located in the coal regions because it appears to be more economical to transport hundreds of tons of ore than to transport hundreds or thousands of tons of coal. Ore has a greater inherent value in relation to its bulk. In this connection, it should be said that the development of electricity has greatly facilitated the transmission of power. In the future, therefore, this factor may not assume so much importance in choosing a location for the factory.

Manufacturing establishments cannot be operated without workers, so that the factor of proximity to labor supply may be significant. In some instances locations which are near raw material regions or power sites cannot be selected because of an insufficient labor supply

ack of an improved community which can satsfy the ordinary human wants may mean great ifficulty in holding employees to their jobs. Any actory that needs a fluctuating supply of labor nust give this factor careful weighting in choosng a location.

The question of location should be solved by hoosing the place which will provide the widest nargin beween total costs and total revenues for he particular industry. Every factor must be onsidered. Locations should not be chosen to ave on one factor alone. There is too much opportunity to lose on the others. All must be valuated and weighted. Moreover, even after location has been chosen and used, periodic tudies of the subject may be the part of busiess acumen, particularly when the established ocation is in a growing community.

The second physical element of manufacture s layout, the arrangement and set-up of the quipment and the buildings. Layout is deterined very largely by the kind and amount of roduct to be manufactured, the processes reuired in the manufacture of such products, and ne movement of material from one process and peration to another. Other factors, however, re also important and must be taken into acount. Such matters as the special requirements f certain departments, the number of machines nd their grouping, the auxiliary equipment and

its relative position to the machine it serves, the space required for aisles and temporary storage, the space needed for service centers, space for storeroom and finished goods awaiting shipment, the necessity for railroad sidings, any restrictions of the plant site, and provision for future expansion.

The average steel plant furnishes a good illustration of effective layout. Blast furnaces are constructed at short distances from railroad sidings or river docks. The intermediate space is used for the storage of ore. Next to the blast furnaces are placed the open-hearth furnaces. The pig-iron can easily be transported from the blast furnaces to the open-hearth furnaces, from which it emerges as steel. Close by the hearth furnaces are the soaking pits. Just beyond, at equal distances, are the various mill buildings through which the steel is passed to be processed. One mill may turn out plates, another may make axles, another may manufacture rails, and so on.

The test of layout is usefulness and simplicity. Complicated layouts are costly. Simplicity will bring with it directness of effort, reduction of cost, and ease of operation and control.

The factory buildings are also important physical factors which are closely intertwined with matters of layout. Building depends upon layout and layout depends upon building. They are not totally unrelated subjects that can be disposed

f irrespective of one another. In general, it is ise to plan the entire layout first and then nsider the construction of the buildings around ie machines and equipment, as it were. Natu- ılly, this procedure cannot be followed when a ıctory building is already on hand and must e used. It is impossible where and when achinery has to be accommodated to the size, ıape, and general structure of an old building. heoretically, however, the building factor ıould be considered little more than as housing or the necessary layout of machinery and quipment.

Factory buildings may be of many types, ngle-story, multi-story, saw-tooth-roof build- ıgs, single-story with mezzanine floors in side ays, round, oblong, square, winged, and so on. ach type has its advantages for certain kinds of rocessing. When these advantages are evalu- ted in connection with cost of construction and ost of upkeep, decisions as to construction may e made.

A single-story building, for example, is desir- ble where heavy materials and machinery are sed. Heavy floor loads in a multi-story type of uilding necessitate costly construction. More- ver, the handling of heavy materials from floor floor involves expensive equipment and labor. hus, plants which manufacture mining machin- y, steam engines, and the like, are almost

always single-story plants. Multi-story buildings are practical where light materials and machinery can be used, and are economical in cities where land values are high. In a hat-making factory, for instance, the raw materials may be sent to the top floor in elevators, and then routed down after being processed to some extent on each floor, until the ground floor is reached and a finished product is ready for shipment. Again, in those cases in which a number of products are made, one floor may be set aside for the fabrication of one product. If the finished product is the result of assembling different materials, each or some of which have to be processed, a single-story building constructed in wing formation may be desirable. The finished product may make use of processed brass, wood, steel, glass and rubber. One wing may be set aside for the processing of each material and the finished product of each wing may be turned out at the end of the building which joins the main structure or assembly floor.

The actual materials of construction used in erecting factory buildings depend in part upon costs of erection, costs of upkeep, fire hazards, legal requirements of particular districts, and so on. "Reinforced concrete and steel-frame construction are rapidly supplanting the old wood and brick mill-construction types, as they have a relatively low cost of construction, can be

made fireproof, and permit of the greater part of the wall space being given over to window space.'' [12] Certainly, due consideration must be given to various possibilities of construction, for the cost of the plant is a large item in overhead charges. The lack of sufficient analysis of the relation between the plant and subsequent profits to be made may result in the erection of an unnecessarily excellent plant which will bring about such prohibitive operating burdens as to wipe out all profits.

The factor of heating and ventilation is also important, altho it has been so recognized only within the last generation. In the early days of the factory system, employees worked in excessive heat, and breathed air poisoned by fumes, gases, and dusts. When it finally became apparent that such conditions lowered the efficiency of the workers and even shortened their working life, this problem began to be attacked with vigor.

Heating systems are either direct or indirect. The direct system is the most common. Steam is utilized and the pipes and radiators are placed along the outside walls. Where the factory generates steam power, steam for heating may be taken from the power boilers and reduced to the pressure required in the heating system, or exhaust steam from the steam engine or turbine may be utilized. The disadvantages of the direct

system lie in the fact that the hot air rises, cools rapidly as it comes in contact with the walls and windows, and "finally rests as a layer of warm air next to the ceiling." Consequently, the floors may be cold while the air is hot up under the ceiling or roof. Furthermore, valuable space near the windows must be taken up with pipes and radiators. This space may be desirable as work space for operations which require natural light. The indirect system of heating was designed to eliminate these disadvantages. In this system an electrically-driven or engine-driven fan forces steam or engine exhaust through heating units and distributes it through ducts to the rooms which are to be heated, the outlets being located at desired points.

An elaboration of this indirect or blower system makes it possible to control the humidity, temperature, and ventilation. Special blower installations can provide for dust collection, for removing hot gases from heat-treating departments or smoke from enameling ovens, for absorbing vapors in packing houses, and so on. Effective temperature control and air-conditioning prevents the spread of disease and vitalizes the worker. Headaches, bleary eyes, and depression disappear, so that the worker becomes more efficient and willing. Consequently, this whole subject of heating and ventilation is worth a deal of careful attention.

While effective heating and ventilating sys-
ns assist in keeping up the worker's effi-
ncy, they are not the only important factors
ich are necessary to the same purpose. A
ovision for adequate lighting, natural and arti-
ial, must be planned and executed. Modern
ctory construction has been experimenting for
ne time with ways and means of providing
ge amounts of natural light. Factory walls are
w made of glass, in many instances, instead
brick or concrete. Very often the window
nes are of fused quartz, so that the beneficial
ra-violet rays of the sun may penetrate into
factory. Processes that require an unusual
ount of natural light are housed in single-
ry buildings with saw-tooth roofs of glass, or
the top floors of multi-story buildings where
ss skylights can be used.

Because the intensity of natural light varies
h the seasons, the weather, and the time of
y, daylight lighting must be supplemented by
ificial lighting. Adequate amounts of light
st be provided, and imperfect diffusion with
essive brightness and contrasting shadows
st be avoided. Again, different degrees of arti-
al illumination must be furnished to special
partments and special process centers. In a
ther manufacturing plant, for example, the
shing department will require twice the in-
sity of illumination that is necessary in the

tanning department. Artificial lighting systems of course, have been improved immeasurably during the past few years, and technical advice is available at small cost or no cost at all in the lighting bureaus of the Power and Light Public Utility Companies. The installation of a system that is technically sound, that coordinates with the use of reflecting colors on walls and ceilings and that involves systematic cleaning of bulbs walls, and windows, will solve this problem.

Another important physical factor which needs attention is the problem of fire hazards. Most city or suburban locations will be governed by city or State fire legislation, but even where such restrictions do not obtain, it is very much worth while for management to give this matter plenty of attention. A fire-proof building is often little more expensive than a non-fire-proof building. In fact, the difference in fire insurance rates may offset the higher costs in a very few years. Fire doors should be installed to enable small blazes to be shut off and stamped out before the sweep of the flames spreads over large areas. Plenty of exits should be provided and conveniently located for the safety of employees in case of a sudden explosion and resultant fire. Hoses, chemical extinguishers, and other forms of fire-fighting apparatus should be distributed throughout the plant and periodically inspected. Sprinkler systems may be installed on the ceil

ngs. Fire drills should be frequent and should involve specific tasks and responsibilities on the part of the workers. A detailed fire prevention program will largely eliminate the possibilities of catastrophe and temporary shut-downs of the whole plant or of a particular department.

Power is the final important physical factor. From the point of view of mechanics it is vitally important. The more a factory is able to get away from manual labor by the substitution of machine work, the more vital the matter of power becomes. All sorts of problems are involved in the provision of adequate and economical power. First, there is the question of type of power. Water power may be used as the direct power or as a component element in hydro-electric generation. Steam which is produced by coal or by fuel oil or gas boilers may be decided upon. Internal-combustion gasoline engines may be satisfactory for some processes. Purchased electric power may be the solution. In making a decision here, management needs to remember that the power needs of the factory are seldom limited to the power required to operate the heavy-duty machines in the plant's production centers. There are many additional power needs, such as needs for heating and ventilating, lighting, the operation of varied types of ovens and furnaces, portable drills, pneumatic drills, elevators, cranes, dust collectors, and so on. Again,

there is the question of whether power shoul be purchased or generated within the establish ment or whether some middle course should b followed. If a generating plant is set up, all th problems of maintenance and continuity o operation must be assumed.

Such, in brief survey, are the physical prob lems of manufacturing. Taken together with th necessity for coordinating and controlling de sign, equipment, materials, and operations b means of an effective organization of the pro duction department and a liberal use of com municating and measuring devices, they hav resulted in elaborate techniques which are rigo ously applied. Our country's strength lies ver largely in the expertness of its manufacturing The magnificent productivity of our moder tools has made us phenomenally rich. But unles we can still further improve our manufactu ing methods we may not maintain our leade ship. Where progress is expected, pause will no suffice. We must go on!

## XIII

## MARKETING

THE central fact of modern business is that nearly all commodities, rights, and services are produced for sale in a market. This is true of minerals dug out of the ground, of crops grown on it, of articles manufactured upon it, and of the services conceived and performed by man. So far as the business of manufacture is concerned, to bring raw materials from the four corners of the earth and produce the finished goods is only part of the job. The product must eventually reach the consumer or production will be obliged to stop. Because of the tendency toward large-scale manufacturing and toward the geographical specialization of manufacturing, a wide gap in time and space has been created between the manufacturer and the "ultimate" consumer.

Our earlier survey of modern business has shown us that the three successive steps in economical development have been: producing for one's own needs, producing for direct exchange with one's neighbors, and producing for the general market. Neither of the earlier steps has altogether disappeared. But the great bulk of modern production is for the general market.

It is only on very, very rare occasions that the skilled craftsman or even the machine tender acts as salesman. Most manufacturing workers make or help to make goods which others will have to sell to unknown customers who may be living in another continent. Modern business has developed rapidly away from the old order of direct sale. In the stock of a tiny retail store there can be found goods from practically every State in the Union and from many foreign lands as well. The marketing function has become greatly specialized and demands the services of men of the highest grades of business ability. Marketing is no longer a butterwoman's job.

An extremely elaborate system has developed for the purpose of bridging the gap of space and time between the farm and the factory and the thousands of households whose needs and wants the farm and the factory attempt to supply. In order to understand the marketing problem it is necessary, first of all, to resolve it into its component parts or activities. These activities are many and complex. They are necessary in order to reach the consumer with goods where they are wanted, when they are wanted and in the form they are wanted. In making a purchase the consumer must decide upon the type of goods, the particular brand, grade or unit to be purchased, and the particular vendor to be patronized.[1] In this whole process the consumer

is influenced by the extent to which sellers have carried out their responsibilities in the marketing of goods. These responsibilities or activities are called the marketing functions. They include assembling or purchasing, distributing or selling, storing, grading, traffic control, risk-bearing, and financing. Broadly viewed, of course, marketing may be resolved into two complementary activities: assembling and distributing. These are the fundamental activities whether the producer and consumer deal directly or through middlemen. As Alfred Marshall points out, "the chief functions of middlemen are those of studying the wants of consumers and the resources of producers and bringing the two into connection."[2] In effecting this connection, however, the middleman must perform the other related and auxiliary functions listed above.

Three types of purchasing or assembling activities are important in marketing. There is first the assembly of like goods for the purpose of obtaining a sufficient quantity of goods under one control for economical operation. This is the type of assembly which interests the car-lot shipper, the local grain elevator, the cotton broker, the grain broker, and so on. Next there is the assembly which is performed for the immediate purpose of obtaining raw materials, fabricating goods, accessory goods, and installation equipment in the amounts, of the kind, and at the

price to make economical manufacturing possible. This is the type of assembly in which the purchasing agent of the manufacturer is engaged. Finally there is assembly for the purpose of obtaining a sufficient variety and amount of goods to meet the convenience of buyers and to make economical operation possible. This, in turn, is the province of the purchasing agent for the jobber or wholesaler of consumers' goods and of the retailer. In all types the efficient performance of this function depends upon a thorough knowledge of market supply, market demand, market prices, and sources of production; an economical and effective methodology for executing and following up orders: and a continuous check of stocks on hand.

Selling or demand-creation activities in some form are involved in the marketing of every commodity. Sales are made on three bases: by inspection, by sample, and by description. Of the three, sales made on the basis of description are the least costly. But not all products lend themselves to sale by description. It may be impossible to sell a carload of potatoes by description or even by sample, while it may be perfectly possible to sell a Hamilton watch by description alone. Much depends upon another function, that of grading, so far as possible bases of sale are concerned. The two principal sales methods are advertising and personal salesmanship.

Either may be used alone, but both are generally used in some carefully-planned combination. The steps involved in demand creation and making a sale are: advising the buyer as to kind and quality of goods, and where they can be secured, creating an effective desire, securing an agreement as to price and as to terms.

There is almost always a "lag" between production and consumption which makes the activity of storage highly essential.[3] Goods must be stored until consumers are ready to use them, largely because the consumption of most products is fairly even and continuous while production is often intermittent.[4]

In general, there is need for three kinds of storage. Common, special, and cold. Common warehouses provide storage for non-perishables and need to be built simply to keep the product dry and to keep it from being wasted. Special warehouses provide storage for semi-perishables and may be equipped with air-circulating and temperature-controlling devices. Cold-storage warehouses provide for perishables like green vegetables, butter, eggs, meats, and so on, and are equipped to provide temperatures at or below freezing.

Standardization involves the adoption of definite rules as guides for the process of producing or sorting commodities into uniform groups.[5] These standards or rules may be based upon a

variety of factors such as size, shape, strength, chemical content, flavor, moisture, method of packing, etc. The actual dividing or sorting in accordance with these standards or rules is grading.[6] The standards or rules which are used in grading may be fixed by public authority or by private initiative. Common or public standards are usually established and promulgated by the State or Federal Governments. They tend to do away with distinctiveness as regards the output of any one producer, for they frequently result in the mixing of goods of similar type and grade so that the identity of individual lots is lost. They make it possible to sell goods by description (grade) rather than by sample or inspection. Private standards are used to make the units of a product uniform, to provide easy identification, and to imply distinctiveness when compared with competing products. Private standards are represented by brands or trademarks which are made known to the market through advertising and personal salesmanship.[7]

Even in the case of the simplest marketing mechanism, the transportation function is involved and must be performed either by the buyer or seller. Transportation or traffic control includes a variety of subfunctions such as proper packing and loading, the selection of favorable rates and routes, an effective consideration and use of terminal facilities, and the study and

ontrol of trucking, draying, or delivery sys-
ems. This function is often so costly as to limit
ne geographical bounds within which the prod-
ct can be marketed. The cost of performing the
ssembly haul, largely carried on by wagon and
notor truck—the intermediate haul, accom-
lished by the railroads and steamships, and
ne final haul by wagon and truck—has a vital
ffect on the problem of reaching the consumer.

At all stages of the marketing process there
re certain risks which must be assumed by the
eller, buyer, middleman, or risk-bearing spe-
alist. In general, these risks are of three types:
efinite risks, indefinite risks, and price risks.
Definite risks are the risks of physical losses and
onsequent money losses, through fire, flood,
prinkler leakage, tornado, hail, theft, and so on.
Most of these risks can be passed over to the
rofessional risk takers, the insurance com-
anies. However, the insurance premiums which
ust be paid add to the cost of doing business,
nd the indemnities paid over by the insurer sel-
om compensate completely for the losses sus-
ined. Indefinite risks are the risks of losses
aused by deterioration, style changes, and the
ke. These must be borne by the owner of the
oods and can be minimized only by the exercise
f good business judgment in buying and sell-
g. Price risks are similar. Losses may be sus-
ined because of changes in market prices.

These losses must be borne by the owner of the goods. They cannot be passed on to others except through hedging, which is possible in organized commodity exchanges where future trading is permitted.[8]

Financing, too, is a function which is fundamental to the whole process. Goods are produced or manufactured, stored, and transported on the assumption that they will be purchased and paid for in money. On this assumption credits may be secured during the period of transportation and while they are in store.[9] The task of securing these credits is an important function of the producer, or manufacturer, or middleman. Practically every series of ownership-transfers necessitates financing, and financing quite naturally increases in importance with the length of time elapsing between production and consumption.

These, then, are the chief marketing functions. They are performed by the producer or manufacturer and by the middleman. Accordingly, the next question which presents itself is with respect to who and what are middlemen.

Middlemen are individuals, firms, or corporations that stand between prime producers and ultimate consumers and that specialize in the transfer of title to goods and in the performance of other essential marketing services. These individuals, firms, or corporations are in business for themselves and attempt to conduct their

nterprises in such a way as to make a profit or the risks they assume in addition to being aid for the costs of their services. Salesmen are ot middlemen. They are excluded definitively ecause they are not in business for themselves nd, consequently, do not assume the risks of an ntrepreneur, and do not receive any profit from heir sales as such. Hence, a manufacturer who ells his products exclusively through a force of alesmen which calls upon ultimate consumers rom door to door, is not selling through middlemen.

All middlemen may be classified upon the asis of their relationship to the transfer of itle to goods. In fact, the relationship of middlemen to the ownership of goods and to the ransfer of title to goods is one of the most ogical and useful factors in defining the position of any group of middlemen, both from a egal and from an economic point of view. On his basis, middlemen are classified as merchants nd as functional middlemen.

Those middlemen who buy goods outright, and hus take title to them are called merchants. This class of middlemen generally performs all r most of the marketing functions. Wholesale eceivers, jobbers, and retailers are the most ommon members of the merchant class of iddlemen.

Those middlemen who assist directly in bring-

ing about a transfer of title, but who do not themselves take title to goods, are called functional middlemen. This class of middlemen generally specializes in the performance of a limited number of the marketing functions, one of which has reference to the transfer of title through assembling or (and) selling. Selling agents, brokers, and commission men are the most common members of the functional class of middlemen. On the part of some writers, there is a tendency to include in the classification of functional middlemen other individuals, firms, and corporations which specialize in the performance of a part or all of the work involved in some one type of market service. Such agencies as railroads, inspectors, graders, banks, cold-storage plants, public warehouses, and insurance companies, by acting in some specialized capacity do facilitate certain marketing activities for the producer, the middleman, and the consumer. They are not *bona fide* middlemen, however, and they should not be classified even in the functional group, for they render no direct assistance in the transfer of title.

These two groups of middlemen are concerned with carrying out marketing services in connection with various types of vendible commodities. Naturally, the variety and complexity of goods in this day and age of power-driven producing machinery is perfectly astounding. However,

vendible commodities can be roughly classified, t least. The principal class groups may be listed s follows: agricultural goods, raw material oods, technical goods, services and rights, and onsumers' manufactured goods.

The farm produces a large portion of the vorld's supply of vendible commodities. Wheat, otton, barley, oats, rice, flax, rye, corn, tobacco, nd fruits and vegetables are typical primary arm products. Livestock and dairy products are ypical secondary farm products. Some of these roducts, like fruits, vegetables, milk, cream, ggs, and so on, are ready for consumption when hey leave the farm. Others, like the grains, live-tock, and textile fibers, are the raw materials of ndustry and must pass through one or more nanufacturing processes before they are ready or consumption.

The second group or classification of products, hen, has reference to raw materials other than arm products. The extractive products such as oal, iron ore, zinc, copper, and so on, belong in his class. Here, too, some products, such as coal, o directly to the household for consumption, while iron ore, copper, and zinc must be proc-ssed. Even in the case of coal, a very large onnage becomes raw material for industry and consumed in the productive process.[10] In this econd group belong fabricating goods as well. hese are goods which have already been proc-

essed to some extent but which are still considered raw materials and must be fabricated still further before they are consumed. Sheet iron, structural steel, hides, cotton cloth, and cut lumber are illustrative of fabricating goods.

Technical goods are goods which are used in manufacturing but which are beyond the raw material form and do not enter the finished product in its marketed form.[11] These goods are purchased for purely utilitarian purposes, for definite uses in manufacturing. They include such accessory goods as belting, tools, office supplies, and such installation goods as factory boilers, heavy cranes, textile machinery, and so on. They are called technical goods because technological considerations of design, quality, and performance are the major determinants in their purchase and consequently in their manufacture.

The next group of vendible commodities is composed of the "intangibles," services and rights. The services which fall into this group may be personal and technical advice or actual and personal execution of a desired activity. They may be the professional services of physician, surgeon, dentist, clergyman, lawyer, engineer, accountant, and so on. They may be the skilled labor service of the plumber and the carpenter. They may be the semi-professional services of the advertising agency or the collec-

tion agency. They may be non-professional services of the public utility. They may be storage, transportation, or communication. The rights may be bank credit, securities, or insurance. Obviously, this class of "intangibles" is exceedingly varied in the nature of its component elements.

Consumers' manufactured goods are those fabricated products which are sold to the "ultimate" consumer, in terms of an individual or household. They may be classified on the basis of the characteristic purchasing behavior of the consumer. Thus, we have convenience goods, shopping goods, and specialties. Convenience goods are goods of small unit price in the purchase of which the consumer wishes to be put to a minimum of effort. Staple groceries, tobaccos, drugs, and so on, are typical convenience goods. Shopping goods contrast with convenience goods in that in their purchase the consumer desires to compare prices, qualities, and styles. Gingham cloth, chinaware, yard goods, clothing, jewelry, and so on, are typical shopping goods. Specialty goods are those which have some particular attraction for the consumer other than price alone. Their purchase is important and infrequent enough to induce the purchaser to visit a distant retail store, if necessary.[12] A Hickey-Freeman suit, a Dunhill pipe, a Mark Cross brief case, or an Electrolux Refrigerator are

examples of products which may be specialty goods so far as an individual consumer is concerned.

Now, there are certain definite steps in scientific marketing procedure which may be utilized by the producer or manufacturer and by the middleman. These steps are directly pertinent to the performance of the function of selling, altho they may involve the other auxiliary functions as well. Naturally, the possibilities of using these steps in scientific marketing procedure will vary somewhat from product group to product group. In some cases the individual producer or manufacturer and the individual middleman may be highly limited in their utilization because of the nature of the product which he may be engaged in handling. These steps in scientific marketing procedure are as follows: market analysis, market forecasting, the formulation of definite product policies, price policies, distribution policies, consumer or dealer policies, the effective and economical direction and control of personal salesmanship, and the effective and economical direction and control of advertising.

In the marketing of all products, the marketing functions remain practically the same with the exception of the selling function, altho different functionaries are common to different product groups. The use of the above steps in scientific marketing procedure also varies in in-

ensity and extensity among the several product groups. Accordingly, a few words of description oncerning the principal marketing problems vhich are typical of these product groups, the niddlemen who perform the functions, and the possibilities of utilizing the scientific steps in elling, will be helpful.

The marketing of agricultural goods is complicated by the following factors: agricultural products are produced on a small scale by a very large number of producers, agricultural production is very largely seasonal in character, a large portion of farm production is perishable, agricultural production varies greatly in quality nd quantity from season to season. As a result f these factors the functions of assembling, raffic control, grading, and storing are exceedngly important. Since the points of production nd consumption are widely separated, agricultural products pass through various types of narkets. These markets are usually classified as: ocal growers' markets (at country points), priiary wholesale markets (at central concentraion points), terminal markets or secondary vholesale markets (at central distribution oints), and retail markets (at points of conumption). In the local growers' markets are ound the following types of middlemen: local uyers, car-lot shippers, country-store buyers nd shippers, traveling buyers, traveling brok-

ers, and cooperative shippers. In the primary wholesale markets are the brokers, commission men, auction company, jobbers, car-lot wholesalers, and cooperative selling agents. In general these same middlemen are typical of the terminal or secondary wholesale markets. In the retail market are the specialty grocery, meat, dairy product, and fruit and vegetable stores, public retail markets, chain, and cooperative food-product retail stores.

Now, so far as the selling function is concerned, the individual farmer can make very little use of the steps in scientific procedure. He can practise market analysis and market forecasting to a limited extent. He can adopt and use certain policies of production, but he can scarcely even package or identify his products by brand on a large scale. He cannot select his own distribution channels irrespective of existing marketing middlemen. He cannot enforce particular price policies, because he is a small producer and must take pretty much what the assembling middlemen offer. He cannot work out dealer or consumer policies. He can make very little use of effective personal salesmanship and practically no use of advertising. Only by combining with other producers in cooperative marketing associations can he apply these techniques at all intensively or extensively. The agricultural middleman can do more, of course,

ut he, too, is limited by the fact that essentially
e is a small handler in comparison with the
otal volume of almost exactly similar produc-
ion.

The marketing of such raw materials as ex-
ractive goods and fabricating goods is also
ighly complicated. A number of important fac-
ors affect the problem of marketing this class
f goods. The points of raw-material produc-
ion are generally few and localized. The mar-
ets, also, are largely concentrated in industrial
enters. Raw materials are usually large in bulk
s compared with intrinsic value, so that trans-
ortation costs are significant. The uses of raw
naterials are constantly altered by research and
xperimentation. The question of substitution
enerally shadows definite uses. The wide variety
f possible uses for raw materials presents a
ide variety of markets which must be reached,
nd the whole process of marketing depends
pon the rate of manufacturing activity. Whole-
ale and retail markets overlap, for such raw
naterials as paint, cotton cloth, and leather are
old for retail distribution as well as for indus-
rial use.

The principal middlemen engaged in market-
ng this group of products are: commission
nerchants, brokers, sales agents, wholesalers and
etailers. Special-type middlemen like whole-
ale and retail dock and trestle coal companies,

and wholesale and retail lumber-yard companies, independent or line (chain), are also common. The individual producer of industrial raw materials and the raw-material middlemen can make a much more intensive and extensive use of scientific marketing procedure than can the farmer or the farm middleman. Market analyses are profitable because the exact needs of buyers can be rather accurately determined. The forecasting of supplies and price-trends is important because raw materials are purchased on a price basis and very frequently on short or long-term contracts. Distribution policies can be worked out somewhat irrespective of traditional marketing channels. Definite price policies, such as guaranties against price decline, and so on, are possible. Consumer policies which are equitable and fair can be made to build up good will. Aggressive and scientific personal sales forces can be maintained, for raw-material buyers are concentrated in industrial centers, do not require frequent visitation, and appreciate technical advice with respect to raw materials. Some use of advertising may be effective and economical, particularly when it is directed toward the manufacturer. Ultimate-consumer advertising is more costly and more dubious so far as results are concerned. Even tho identification of raw materials by brand may be possible, most raw materials form a component part of a finished

roduct, and the consumer is more likely to be nterested in the finished-product brand than in ne raw-material brand on a part or element of ne finished product.

The accessory and installation goods which nake up the class of technical products also pre- ent their special marketing problems. Here, the otal number of buyers is relatively small. The ompetition for markets is extremely keen. The istribution of the markets has no inherent re- tionship to the distribution of population. The naracter of the market is determined by the articular use to be made of the product. In- allation goods, in particular, must fit the needs f the individual plant or industry. Buying on pecification and to individualistic order is com- on. Purchasing is carried on from the point of iew of possible product performance. The buy- ng test is the cost per unit of satisfactory rvice. Installation goods are purchased at in- requent intervals and the unit of purchase is rge. Accessory goods are purchased more fre- uently but at irregular intervals and in vary- ng amounts. The need for continuous and con- stent service imposes service obligations upon ne seller, particularly in the case of installation quipment.

Such are some of the significant marketing fac- rs which affect the problem. The marketing nctions are performed, in the main, by sales

agents, wholesalers or jobbers, and such special-type middlemen as mill-supply houses (wholesalers) and sales-engineering concerns (sales agents). Retailers, too, are involved, for some kinds of accessory equipment such as wrenches, bearings, fans, and so on, are sold to the retail as well as the wholesale markets. Both the manufacturers of technical goods and the middlemen handlers may make an effective use of scientific marketing procedure.

Accurate and comprehensive market analyses are necessary to secure repeat orders, to avoid replacement by competitive products, and to consummate initial orders. Technical products are often purchased as the result of competitive bids, and market forecasting is absolutely necessary to estimate production costs in terms of present and future raw-material prices. Single distribution channels or mixed channels may be used as effectiveness and economy seem to dictate. Individual sales forces which scout for business and offer engineering advice may be profitably maintained. Buyers will consider the purchase of installation equipment long before it is actually purchased. They will purchase accessory equipment at irregular intervals. Hence advertising which is directed toward the industrial market, and which stresses performance facts, design, and construction details and service facilities, will be effective.

The marketing of services is not a highly ganized process as a general rule. Personal rvices are individualistic and consequently are arketed pretty much on a one-man basis. Few ddlemen take a hand in the process. Occanally the broker and the commission man be-ne important factors, but, on the whole, per-nal services do not lend themselves to middle-an handling.[13] Personal services cannot be ndardized and produced in quantity to any tent. Often they cannot be accurately de-ibed. They cannot be transported, classified, d measured in the sense of physical products. cordingly, sales are usually more or less direct d the functionaries of distribution are absent. In the case of rights, such as bank credit, in-rance, and securities, more elaborate market-g procedures are generally employed. Insur-ce may be sold by the insurance company's n marketing department or through middle-n known as insurance brokers. A considerable e can be made of the whole technique of scien-c marketing. Bank credit is obviously a direct pposition between lender and borrower. Secur-es are marketed by the institutions described Chapter IX and through organized market ces called exchanges. The New York Stock change is the best-known American exchange rough which securities are bought and sold. rporations must go through a number of

formalities and must provide and establish man facts about their business before their securitie may be traded in on the exchange. When thes securities are admitted for trading purpose they are said to be "listed." [14] In New York ther is also a Curb Exchange—so called because it trading was formerly carried on in the ope street—through which securities may be bough and sold. Such exchanges make investment easy since they provide a place where almost any one may buy and sell through agents or broker

Manufactured consumers' goods are produce in quantity for sale to wide markets. They ar intensively marketed through middlemen, an pass, in the main, to the individual or the famil through retail outlets. The jobber is perhap the most distinctive wholesaler in the marketin of manufactured consumers' goods. He may b a general jobber who handles a full or complet line of merchandise such as groceries or hard ware. Or he may be a specialty jobber wh handles a relatively small group of articles suc as knit goods or hosiery products. He is a me chant middleman who stands between the manu facturer or the broker, sales agent, or commi sion merchant and the retailer.

Many types of retail outlets can be distin guished in the marketing of manufactured co sumers' goods. The general store which is typic of the small towns and rural districts is perhap

e simplest type of retail outlet. It handles
oceries, hardware, dry goods, shoes, clothing,
ts, and even farm implements. It has a rela-
vely small volume of sales and cannot carry
y complete assortment of each class of the
ods which it sells. As a rule it is owned and
erated individually or "independently." Then
ere is the specialty store, a single unit retail
ore which handles a limited line of merchan-
se and represents the trend toward special-
ed retailing.[15]

Two types of specialty store are common,
e neighborhood specialty store and the ex-
usive specialty store. The former type de-
nds for its market on the "contiguous terri-
ry" rather than on the quality of its mer-
andise and the service rendered. It handles
nvenience goods or shopping goods. The latter
pe of specialty store caters to a "downtown"
d quality trade and handles shopping goods
d high-class specialty goods. In general, it
arges high prices, carries a carefully selected
ock and provides a maximum of service. The
partment store is a "retail institution organ-
ed on a departmental basis, in which one of the
rge departments is dry goods."[16] It is typi-
lly a large-scale establishment and may include
der one roof fifty or a hundred separate de-
rtments. It relies for its merchandising suc-
ss upon scientific organization and manage-

ment, quantity purchasing, abundant publicity well-trained counter salesmanship, and service to its clientèle. Usually this service consists of delivery, credit extension, and convenient store facilities. The mail-order house is also a retail establishment, but a retail institution which secures its orders by mail rather than by personal contact with purchasers.[17] The large general merchant mail-order houses carry and market a tremendous variety of merchandise which is mainly purchased from manufacturers. They follow the practise of carefully guaranteeing their merchandise, of charging low prices, of making special inducements to buy in quantity, and of executing their salesmanship in the catalogs. Other types of mail-order houses confine their offerings to one or more special lines.

The chain-store idea in modern retailing represents the trend toward standardization as applied to separate retail units under central management. In fact, a chain-store system may be defined as "a group of stores handling similar lines of merchandising with a single ownership and centralized management, but with decentralized location."[18] Generally, the unit member stores are located with reference to traffic streams. The appearance of each member store and the stock which it carries is highly standardized and conforms with that of each other member of the chain. The buying and the

storing are usually carried on by the central office. Store managers and clerks are trained and standardized promotion plans are used. Naturally, there are many types of chains, chain general stores, chain neighborhood-specialty stores, chain exclusive-specialty stores, and even chain department stores.

In marketing manufactured consumers' goods through these various types of middlemen, the manufacturer can make an intensive and extensive use of the several steps in scientific marketing procedure. Broadly speaking, he will find it necessary to assume a very large portion of the selling burden. He may attempt to hand his entire marketing problem over to the middlemen through whom he chooses to reach the consumer, but usually any such effort will be somewhat unsatisfactory in profit results. Accordingly, the medium and large-sized manufacturer will attempt to set up some marketing organization of his own through which the techniques of scientific marketing procedure can be applied.

Sound logic and scientific methodology have not been applied to the problem of organizing a manufacturer's marketing department to the extent to which they have been utilized in setting up the production or manufacturing department. As a result too little attention has been paid to functionalizing the marketing department, coordinating its activities, and separating

study and planning from performance. The typical department is headed by a sales manager, to whom the advertising manager and the branch sales managers (if the company maintains sales branches) are responsible. In the more elaborate organizations the marketing department is presided over by a vice-president in charge of sales, a director of distribution, or a marketing manager. Directly under this executive may be the field sales manager, the sales office manager, the sales promotion manager, the advertising manager, and the director of market research. Obviously, this type of organization takes more account of specialized tasks. If the concern executes and places its own advertising, the advertising personnel may be subdivided into copy, art, placement, and checking groups. If, however, most of the advertising is planned, executed, and placed by an advertising agency, the work of the advertising manager may be confined to direct-mail advertising, to internal house organs, and to maintaining an advisory and checking contact with the advertising agency. No standard organization set-up can be indicated here, because of the variety of present business practise, and because of current uncertainty with respect to what should be included under the head of various functions, such as sales promotion, for example. The most that can be said is that in this so-called "distribution

ge," when marketing costs appear to be mount-
g rapidly, much more study and experimenta-
on in marketing organization may be expected.
n most cases it is certainly needed.

The manufacturer of consumers' goods can
ardly escape the necessity for continuous and
areful market research and analysis. Market
ata should furnish the basic factual informa-
on upon which policies are set up. Research and
nalysis are necessary prior to the production
f a new product and continuously throughout
e life of the enterprise. They furnish informa-
on with respect to undeveloped market possi-
lities, unprofitable territories, new needs and
ants, necessary adaptations and changes in the
roduct line, and a veritable host of other im-
ortant considerations. Research makes avail-
ble quantitative information concerning the
urchasing power of trading areas, the average
er capita consumption in those areas, and so on.
oreover, it provides qualitative information
ncerning consumers' prejudices and prefer-
nces. Both types of information are necessary,
nce willingness to buy is just as important as
adiness to buy.

Product factors, market factors, and com-
etitive factors are the chief focal points of most
arket research and analysis. Investigations are
rried on in an effort to secure facts and to
cure collections of opinions or judgments of

considerable numbers of people.[19] The methods used to gather these facts are the circulation of mailed questionnaires and personal interviews with dealers and ultimate consumers. In addition, laboratory and user tests of the product line may be conducted from time to time. Economy investigations of the actual techniques used in the marketing department may also be made and often result in new methods which effect important savings. Thus, market research may range over a wide field from investigations of the average number of salesmen's calls per day to consumers' color preferences with respect to packages, to study of magazine duplication of circulation, to evaluations of consumer acceptance in various territories, and so on.

Forecasting is similarly important as a basic factor in business planning. It is necessary to look ahead for considerable periods, "to evaluate trends and to make preparations for them."[20] While the technique of market forecasting is not yet highly developed, some enterprisers have been able to work out forecasting methods of rather surprizing accuracy. Where markets are clearly defined in character, where product uses are well known, and where complete and accurate records of past accomplishments have been kept, forecasting is possible and will be valuable. It is certain that one of the greatest needs of the manufacturing enterprise

a technique for effectively coordinating pro-
uction programs with carefully-determined
les possibilities. A disproportionate emphasis
pon volume of production may throw an im-
ossible burden upon the marketing department
nd cause marketing costs to mount sky-high
the frenzy of "high-powered" selling.

The first group of policies which need to be
ecided upon in the light of market facts is the
roup of product policies. Whether the enter-
rise is considering the addition of new products
the line or the adaptation of old ones, definite
roduct policies are desirable. These policies
ave to do with the number and type of products
be made and sold, the relation of style and
uality, the company's guaranties, the identifica-
on and the packaging of the product line. All
uestions of trade-marking, "family" or indi-
dual brands, the use of a trade character and
ade slogan, fall under this general heading of
roduct policies. All these policies are of par-
cular importance in marketing, since they so
rgely determine the talking points and the
lling points which may be used in distributing
eas about the production through personal
lesmanship and advertising.

Price policies, too, need to be carefully con-
dered and definitely set up. These policies have
do with such fundamentals as the general
ice level which it is desired to maintain, either

the market "plus" level, the market "minus" level, or the "at the market" level. They involve such matters as guaranties against price declines, which may be made to dealers or ultimate consumers. They include all the many and complex discount questions, trade, cash, quantity, geographical, forward datings, and the like. Taken as a group, they determine the conditions under which the business enterprise will sell and deliver goods. It is important that they be clear and definite and that the marketing department should understand the underlying reasons for them and the objections which it may encounter in presenting them to prospects and customers.

The distribution policies of a business enterprise are concerned with the selection and use of the marketing channels through which the product line is to be distributed to consumers. The nature of the product line, the existing trade organization, and the peculiar circumstances of the particular enterprise are important factors in choosing a definite distribution policy.[21] The principal available marketing channels are as follows: sale direct to consumers by mail, personal solicitation, or through manufacturers' retail stores, sale direct to retailers who deal with the ultimate purchaser, sale direct to wholesalers or jobbers, and sale direct to middlemen who customarily deal with the wholesaler or job-

ber (sales agents, brokers, factors, commission merchants). These channels may be used singly or in combination. In fact, there appears to be a growing tendency to adopt "mixed" policies of distribution, to use these channels in combination. In such instances a product or territorial line of demarcation is usually set up between two different channels of distribution. A manufacturer, for example, may sell direct to retailers in Atlantic seaboard cities, direct to jobbers west of the Alleghanies to the Mississippi River, and direct to brokers in the West and on the Pacific coast. Or he may sell branded, first-quality, packaged products direct to retailers, and unbranded, bulk products to wholesalers and jobbers.

In the use of any one channel of distribution, a policy decision must be made with respect to the number of middlemen that will be used—whether the policy will be general distribution, selective distribution, or exclusive distribution. If the product is a convenience good, general distribution is desirable whether it is direct-to-retailer distribution or wholesaler-retailer distribution. If, however, the product is a shopping good, selective distribution may be satisfactory. And if the product is a high-class specialty, exclusive-agency distribution may be advisable.

Again, the question of the particular types of retail outlets which should handle the product is

important. The ultimate retail market should be carefully considered, whether it is reached directly or through middlemen. General stores, neighborhood specialty stores, exclusive specialty stores, mail-order houses, chain stores, and department stores all have special marketing characteristics and offer various possibilities which depend, in the main, on the exact nature of the product line. In addition to the product as a determinant, as has already been suggested, the existing marketing custom and resultant trade organization may preclude the choice of a particular distribution channel. "The existence of a smooth working system of middlemen tends to force a company to take unusual risks if it departs from the customary channels." [22]

Dealer and consumer policies are also essential and vital because of their effect upon marketing costs and upon market good-will. In general, these policies have to do with returned goods, claims and allowances, cancellations, sales on approval, sales on consignment, instalment purchasing, credits and collections. The perplexing problem here is the extent to which standard policies can be applied, the question of individual exceptions to standard policies, and so on. Exceeding care is necessary to establish and maintain policies which will be fair, which will give the dealer or customer some freedom of adjust-

nent when dissatisfied, and which will avoid preferential favors.

These, then, are the essential sets or groups of policies which must be formulated and put into operation if the activities of the marketing department are to be effective and economical.

The next matter of marketing technique is concerned with the direction and management of the field force of personal salesmen. The personnel of the personal sales force may be large or small, depending upon the scale of marketing operations and the method of distribution. If it is large it will have to be carefully organized, perhaps on the basis of branch-office groups, branch-office crew groups, or perhaps on the basis of function, one group for each major class or products, or on some combination of these possibilities.

Provision will necessarily be made and machinery will be set up to recruit salesmen for the field force. Possible sources will be listed and job analyses and evaluations of past experiences will guide the dependence upon these sources. Advertising, personal, and mail contacts with employment agencies and educational institutions may be developed in an effort to secure a sufficient supply of sales applicants.

Methods of selecting salesmen from the recruited applicants will also be evolved. The technique of interviewing, evaluating recom-

mendations, and applying tests, psychological or factual quizzes will be developed to aid in the process of selection.

If the selling task is at all complex or if the average buyer is at all difficult, the technique of training the field sales force will also be given attention. Few business enterprises can afford to allow their new salesmen to practise on prospects and customers. Consequently, rather elaborate programs of initial training will generally be imposed upon the new recruits. Moreover, individual instruction, class instruction, and correspondence instruction may be offered from time to time to the force as a whole, to the experienced salesmen as well as to the novices. In connection with sales training, the matter of equipping the field sales force will be studied and worked out. Sample cases, models, photographs, motion-picture projectors, advertising portfolios, and sales manuals, will come in for their share of attention as devices which may aid the effectiveness of the selling talk.

The chief problems of supervising the field sales force have to do with setting up standards of accomplishment, laying out territories, controlling the salesman's time, and controlling the salesman's expenses. Careful territorial allotments will be made and routing will be closely supervised in an effort to cultivate the market intensively as well as extensively. Standards of

performance with respect to number of calls, and so on, will be rigidly insisted upon wherever and whenever standards are possible. Daily work and daily expense reports will ordinarily be required of all men in the field, and these reports will be checked and used as the bases of reprimand, congratulation, and additional instruction.

Efforts will also be made to work out a systematic procedure for the encouragement and stimulation of the salesman's best efforts. Compensation plans will be studied, adapted, and combined in order to set up money rewards which will act as sound incentives. Sales contests will ordinarily be held from time to time to instil the spirit of friendly competition and to draw attention to particular phases of the selling job, such as window-dressing assistance to the retailer, for example. Occasionally sales conventions may be held at the home or branch office to furnish an opportunity for the consideration of particular sales problems and to develop friendly contacts between the home office executives and the field force. Company magazines may be instituted and edited for the sales force in the interests of stimulation, entertainment and education. It should be remembered that the salesman, in the very nature of things, is more or less his own master while on the road. Moreover, in most cases, he is alone in his territory and lacks the direct incentive "which is furnished

by working with others at similar tasks."[23] He needs stimulus and incentive, so that he will do himself justice by doing the best that he can, and so that the marketing activity will be carried on at a minimum of cost in comparison with results.

The use of advertising presents its special problems of control, problems which are just as vital as the problems of personal salesmanship. While advertising as a selling medium is much more recent in its development than is personal selling, it is to-day an especially effective marketing force. Moreover, it may become highly costly and wasteful if it is not carefully controlled.

Advertising is used to present ideas about goods to prospective and present purchasers. It may be directed and controlled by the marketing department of the individual business enterprise or by a specialized advertising agency engaged to do the work by the individual enterpriser.

The technique of building an advertising campaign is rather highly refined. Planning the marketing purpose of the advertising campaign is the first step. The general copy theme or "dominant" idea is decided upon after considering the purpose of the campaign, the attitude of the reading audience which the campaign desires to reach, the chief buying motives which

fluence the purchase of the particular type of roduct, and the exclusive or special features of e product when compared with competing roducts. The copy personnel then experiments ith different methods of approach, of develop- ent, and of close, and prepares possible pieces copy. The art staff experiments with visual- ation and attempts to express in picture the ominant or a related but appropriate idea. hen decisions are made on copy and visualiz- g illustrations, the layout personnel attempts combine the copy elements and art elements an arrangement which will carry the meaning at the advertisement is designed to express id an arrangement which will be in accord ith certain structural laws and yet be dis- nctive.

Next, the media group will suggest the most fective types of media to be used, the best roportionate use of the various types, and the ost effective individual media within the group type. The whole range of magazines, news- apers, trade-journals, painted or electric signs, osters, street-car or subway cards, letters, book- ts, catalogs, programs, novelties, and so on, ll be considered. Qualitative and quantitative irculation) reasons will be presented in sup- rt of the suggestions. Costs will also be mized.

When the media are decided upon the schedule

of insertions is worked out, cost estimates are set up and advertising appropriations requested. If the resultant plan requires an advertising appropriation which cannot be secured, the plan will necessarily be trimmed. But in every case the start of this revision process should be with the purpose or objective. If the initial plan has been soundly prepared it can hardly be trimmed without also trimming the campaign objective.

Finally, it should be said that special efforts are made to coordinate the work of advertising and personal salesmanship, to fuse these two marketing forces into a unified marketing campaign. There is but one answer to the growing demand for better marketing. The whole process must be studied as the processes of production have been studied. Principles and techniques must be evolved. Campaigns must be planned scientifically, controlled intelligently, and measured relentlessly.

## XIV

## FINANCING

INSTEAD of attempting to operate a snug, easily managed, financially guarded, and therefore safe business, which will yield a reasonable profit, many business enterprisers try to buy and sell double the quantity of goods which their capital justifies. Instead of spreading an amount of canvas proportioned to the tonnage of their craft, the mass of those who embark on the treacherous ocean of trade crowd on all sail and endeavor to make the utmost knots per hour. For a while "fair laughs the morn, and soft blows the zephyr." But suddenly a squall bursts upon them, and they are swept, in spite of every effort, towards a lee shore to break up on the rocks of bankruptcy or receivership. All of which is by way of saying that inefficient financial administration can do much to wreck a business.

Broadly speaking, the financial administration of a particular business enterprise is concerned with maintaining its capital so that its credit will be good with outsiders, and maintaining a regular rate of income on the investment of its proprietors, partners, or stockholders so that it will be in good standing with its owners.[1] Apparently, this is a simple enough proposition,

but when it is broken down into necessary operations, the task of financial administration is certainly many-sided and complex. In terms of necessary operations, it includes such relatively infrequent financial operations as securing capital funds to start a business and effecting an expansion of capital funds from time to time. It involves such day-by-day financial operations as distributing earnings, providing for depreciation, setting up essential reserves, making short-term loans, controlling credits and collections, regulating the routine for handling cash, handling taxes, and insurance, controlling the purchase, mortgaging, leasing, renting, and selling of real estate, recording and classifying financial facts by systematic accounting, preparing and publishing financial standards of the condition and progress of the enterprise, and so on.

In the beginning and throughout all the stages of the organization of a new business enterprise there are numerous questions which must be considered from the point of view of finance. Decisions must be made upon a number of matters which are inherently financial in nature. Some members of the organizing group must furnish the necessary financial advice or outside counsel must be secured. Such matters as the amount of funds which must be in hand in order to start the venture, how long a period will elapse

efore business profits begin, how these neces-
ary initial funds are to be secured, what kinds
f contracts shall be made with those who supply
he funds, and how issued securities shall be
narketed are all vital financial problems. They
eed the application of a purely financial type
f thinking.

Obviously, some of the initial fund require-
ents in beginning a new business are necessary
o provide for a plant, equipment, and machin-
ry. The physical plant and its equipment are
ore or less permanent in character and call for
long-time investment of capital. They consti-
ute the fixed capital requirements. Now, a new
usiness will not begin to earn money as soon as
is started. Even tho a complete business
achine is set up and manned by competent
orkers, there will still remain the need for
unds "to put the entire machinery in opera-
on and to keep it in operation till the business
ays for itself."[2] During the period of initial
roduction and pending the profitable market-
ng of goods, capital is tied up by work in
rocess. Working capital, then, is needed as well
s fixed capital. Nor is the need for working
apital confined to the initial period of operation.
t almost any time in its career, a business enter-
rise is likely to find periods when its earning
ower is reduced and when it needs additional
orking capital. And so it may be said that

"working capital is the life-belt that keeps a business afloat when its earnings are suffering from cramps or while it is still learning to swim."[3]

How much fixed capital must be secured in order to acquire the necessary fixed assets, may be determined with a fair degree of mathematical accuracy. The cost of constructing buildings and plants, the costs of equipment and machinery, and the costs of installation can be ascertained. The amount of initial working capital which is necessary to acquire raw materials, to finance partly-finished products and finished products, to provide for labor, to finance accounts receivable, and so on, until profits begin to be realized cannot be quite so definitely determined. Some of the important factors which must be considered in estimating these initial working-capital requirements are: the proposed volume of production for the market, the probable distribution of purchases throughout the year, the credit terms upon which purchases will be made, the distribution of manufacturing and selling expense throughout the year, the credit terms upon which sales will be made, and the probable distribution of sales through the year.

Careful attention must be given to the ratio of working capital to fixed capital when a business starts. An inadequate provision for equip-

ment may result in a loss of productive efficiency. And too liberal an outlay for equipment may cripple the business by impairing its working capital.

> If the new mercantile firm will rent its store instead of buying a building, and if the new manufacturing concern will have its product manufactured on contract for two or three years instead of buying a plant and equipping it, the infant enterprise will have time to get its bearings; whereas a burden of fixed charges at the outset may be a source of delayed profits or even receivership. The new business needs to build up its resources.[4]

Business enterprises are dynamic organizations. They either expand or take sick and ultimately pass away. They move forward or backward. Going concerns, then, face this same problem of acquiring new permanent capital and new working capital. In prosperous times, business men are wont to plan new establishments or enlarge old ones. One method of obtaining funds to purchase more machinery or to enlarge the factory is to turn the profits back into the business. This, however, is a slow method unless profits are unusually large. In many cases, financial administrators do not feel that it is desirable to wait for the slow accumulation of earnings in order to secure additional fixed capital. They are quite ready to face the problem of securing additional amounts from outside the business. In

the same way, any suggested expansion may present a need for additional working capital with which to purchase raw materials and the like. Moreover, irrespective of expansion, temporarily-reduced earnings, as has already been suggested, may make it necessary to secure additional working capital. In considering these two needs when they become apparent, the financial administrators must give considerable attention to such questions as: the continuing ratio between permanent and working capital, the necessary additional amounts of each, what kinds of contracts shall be made with persons who have funds to supply, how these contracts can be made attractive to lenders of funds and still be safe and sound from the point of view of the business, how these contracts shall be negotiated, and what use shall be made of financial institutions and financial middlemen.

The financial administrator or manager may accomplish the task of securing initial fixed and working capital or new fixed and working capital in many different ways and by making use of many different contractual devices. An individual proprietorship or partnership, for example, may secure fixed capital by issuing to the mortgage company a promissory note which pledges property as security. The mortgage company furnishes the funds and may market the mortgage to individuals, savings banks, insur-

nce companies, or trust companies. Or the individual proprietorship may become a partnership, the new partner or partners bringing in additional fixed capital. Or the individual owner may himself decide to put more fixed capital into the business. The partnership may add to its fixed capital by expanding the partnership and bringing in new partners who are willing to invest fixed-capital in the particular business. Working capital may be secured by the individual proprietorship or partnership by securing trade credit from concerns which sell goods to the particular proprietorship or partnership. Or they may find commercial credit or discount companies which are willing to buy the proprietorship's or the partnership's "accounts receivable." Or they may go to commercial banks and negotiate short-term loans on the basis of promissory notes. Or they may obtain funds from commercial-paper houses in the same way.

The corporation secures its fixed and working capital in much the same way as the individual proprietorship or partnership. It may sell its stocks or bonds to members of the company personnel, to former and present stockholders. It may attempt the direct sale of its securities, altho few corporations have the facilities or the experience necessary to distribute their own securities except in limited amounts. Usually, then, the corporation must make use of some

financial middleman. An investment-banking institution may agree to underwrite the corporation's stocks and bonds. The investment-banking institution then sells these securities to individuals, insurance companies, savings banks, trust companies, and other concerns. If its stocks and bonds are not of high grade, the corporation may find it necessary to call upon dealers in low-grade securities who attempt to seek out investors through personal sales forces, circulars, and publication advertising.[5] In its short-term needs, the corporation may be assisted by grants of trade credit. Its "accounts receivable" may be taken over by commercial credit and discount companies. It may borrow on its promissory notes from a commercial bank or a commercial-paper company.

The capital of a business enterprise is the net value of the enterprise's assets, the plant, its equipment, materials on hand, cash, and so on, all added together, and less the total of liabilities to creditors. The term capitalization, as commonly used, means the total par value of the security issues outstanding at a given time.[6] Naturally, the capitalization of a concern is rarely identical with the actual value of its outstanding securities. When the value of the outstanding securities is higher than the capitalization indicates, the enterprise is said to be under-

capitalized. When the opposite situation obtains, the enterprise is said to be overcapitalized.

The bases of capitalization are actual cost, cost of replacement, or earning power. The basis of actual cost is seldom used except "when the business is small or closely owned." Nor is it always a conservative basis. Recapitalizing an old business at cost may result in overcapitalization if the assets of the business have deteriorated. The cost of replacement is not widely used as a basis for capitalization except, perhaps, in cases of reorganization. The most commonly accepted basis is that of earnings.

> Let us assume that a business with a $100,000 plant is earning $30,000 a year on the average. How much is it worth? Certainly more than $100,000. We should be glad to pay $200,000 for it, for this would give us 15 per cent. on our money. It is worth more than this. We should be able to mortgage the plant for, say conservatively, $50,000 at 6 per cent. The interest would take only $3,000. We might put out a 7 per cent. preferred-stock issue of $100,000, which would take $7,000 for dividends. This leaves $20,000 in earnings for the common stock, enough to pay 8 per cent. dividends on an issue of $250,000.
>
> The earning power, in this case, has determined the amount of capitalization—$400,000 the total of the three security issues.[7]

It is not difficult to capitalize a going business on the basis of earnings, because actual and tangible results of the business are available in

the earnings records. In the case of a new business, however, anticipated earnings must be used as the base. Hopes must, then, be considered very carefully and conservatively.

Three types of financial structures are common. The first design may be said to be somewhat like that of a pyramid.[8] Suppose that a certain company is capitalized as follows: Mortgage bonds, $200,000; other bonds, $400,000; preferred stock, $1,000,000; and common stock, $4,000,000. The broad base of the structure rests upon the common stock contributions of the actual owners. From the base upward, the structure tapers up through a contribution of creditors of $400,000 to the apex contribution of creditors (mortgage bondholders) of $200,000. Only slightly more than one-sixth of this corporation's funds come from outside the business itself. Corporate income *must* be paid out as interest on only one-sixth of the corporation's capitalization. If the corporation does not pay interest on its mortgage bonds, the creditor bondholders can have the mortgage foreclosed. If it does not pay interest on its other bonds, the particular bondholders may institute suit against the corporation. In either situation the corporation will be likely to land in receivership. The corporation, however, is under no obligation to pay dividends on either class of stock unless the stockholders can prove in court that the direc-

ors are acting in bad faith by actually withholding dividends. Of course, if the preferred stock is cumulative preferred stock, the stated preferred dividend percentages will pile up and remain an obligation to be met in the future. Such a financial structure as is outlined above provides great strength. While its sloping sides cut off valuable space and mean some waste borrowing space, it is nevertheless firmly based. Any corporation which must face wide variations in earnings between its fat and lean years, must work toward the pyramid design.[9]

The other extreme of structural design is the inverted pyramid. Suppose that a corporation is capitalized as follows: Mortgage bonds, $3,000,000; other bonds, $1,000,000; preferred stock, $600,000; and common stock, $400,000. Such a company, figuratively speaking, is standing on its apex. Its base is up in the air. Four-fifths of the capitalization requires the expenditure of corporate income for fixed interest charges which must be paid if financial difficulty is to be avoided. Certainly, such a financial structure will not withstand the stress and strain of financial storm. Any business crisis or market change which results in a sharp reduction in earnings will precipitate a thunderous fall and crash.

The mean type of structural design which stands between the pyramid and the inverted pyramid is often called the office-building finan-

cial structure. Suppose that a corporation is capitalized as follows: Mortgage bonds, $1,000,000; other bonds, $1,500,000; preferred stock, $1,000,000; and common stock, $1,500,000. Such a company, figuratively speaking, is like an office building. Borrowed funds and owned funds are equal. The structure is designed with maximum utility in mind, as well as strength. However, it should be indicated that in this particular set-up, the fixed charges on borrowed funds are heavy. In any attempt to construct an office-building type of financial structure, conservatism necessitates, as a general rule, more emphasis on basic strength.

Such, then, are some of the relatively infrequent financial problems that confront the financial administrators of a modern business.

There is, for example, the matter of maintaining adequate reserves and building up the surplus. It is customary and desirable for most concerns to charge against the earnings of each year certain estimated amounts as rainy-day insurance. Such funds are called reserves and are carried on the balance sheets to meet possible contingencies and to provide for future expenses. The existence of these reserves is necessary to preserve the company's capital in an unimpaired condition. A common form of reserve is that which is set aside for depreciation. Plants, machinery, store buildings, and the like

depreciate physically from year to year. "Unless allowance is made for the wear and tear on property and machinery, a business is living off its own fat."[10] The normal procedure may be as follows: If a particular machine has a probable life of ten years, ten per cent. of the value of the machine may be set aside every year in a depreciation fund. At the end of ten years, enough funds will have been accumulated to enable the purchase of a new machine.

If the company makes profits, some of the profits should be left in the business—in the surplus reserve, or account. Generally, it is desirable to fix the stock dividend rate below the estimated minimum earnings. Then, in the good years, the company's extra profits may go into surplus. Such a procedure will make it reasonably possible to pay dividends consistently and year after year. "A company that pays $20 dividends in boom years and has to cut its dividends entirely during a depression is not serving its owners well. The income stops at the very time when it is likely to be needed most."[11] Surplus accounts, of course, may be built up by other methods than the accumulation of certain amounts of the earnings. The revaluation of assets, the sale of assets at more than the value at which they were carried on the books, the donation of an asset or of stock, and the sale of

stocks or bonds above par may provide additional contributions to the surplus.[12]

Decisions with respect to what dividends shall be paid to the stockholders also constitute an important financial problem. A conservative financial policy restricts the declared dividends to an amount considerably less than the earnings. Certainly, dividends should not be declared in excess of earnings. And dividends should never be declared unless they have been earned. The general aim of the financial administrator should be regularity in dividend payments. So far as the stockholder is concerned, regularity of return is more to be desired than high returns in one year and none in the next. Where there are unusual and unexpected profits, extra dividends may be declared, which by their name-tag warn the stockholder not to expect them regularly. If the concern has a large earning power but needs its cash for present operations, it may pay dividends in scrip or stock. Scrip is nothing but an unsecured interest-bearing note.

One of the day-by-day transactions usually assigned to the financial department is the handling of credits and collections.[13] The financial director, in consultation with the director of marketing and the general manager, considers the credit policy of the concern, and together they reach a definite decision as to general credit

nits. Subordinate financial officers may com-
le credit data from such agencies as Dun's or
radstreet's, and may supervise the methods of
thering credit data by the firm's own sales
rce. With such information before them these
nancial officers pass on the credit of all cus-
mers either on individual transactions or
rough approved lists. The financial officers
ay also more or less influence the collection
licies.

The financial department also has the responsi-
lity for the custody and maintenance of funds.
here is a large amount of detail and routine
ork in connection with the daily disbursements
d receipt of funds. Most of this routine work
done through the medium of a cashier. His
tivities may include: cashing all receipts other
an cash; depositing all cash, checks, and
shed receipts; setting up all petty cash funds,
sbursing petty cash, making all transfers of
nds between depositaries, preparing pay-
lls, and disbursing all moneys, subject to
oper voucher authorization.

The financial department may also assume the
sponsibility of supervising the correspondence
all cases of financial claims against the com-
ny. It may approve all adjustments made by
e claim department. It may be required to pre-
re all tax returns which are made necessary by
vernmental law. It may determine the amount

of insurance and kinds of policies required t
afford all necessary insurance protection. It ma
have the authority to place all such insuranc
and be responsible for the payment of all pre
miums. Thus there are innumerable miscellane
ous duties that fall to the financial department.

Now, the financial officers depend upon th
accounting group for the facts upon which finan
cial judgments may be based. Consequently, th
financial department will very often have charg
of the accounting personnel through the chie
accountant.

When operated under a proper system and in
telligently used, accounting records are reliabl
guides and faithful indices of business progres
The accounting records will reflect not only tota
profits earned or losses realized, but—in minut
detail—the sources of profits, causes of expens
and the proportionate profits made on any lin
or division of a business. This makes it possibl
for the financial manager to suggest the redu
tion or elimination of unnecessary expenses, t
suggest the necessity for increasing the sales o
profitable articles and for curtailing the sales o
unprofitable ones, or for reducing the cost o
producing and selling the unprofitable item
Without accounting systems, large-scale busine
operations would be practically impossible an
small-scale operations would be frightfull
wasteful.

Books of account are kept according to the ingle-entry or double-entry system. The former ystem is not widely used or generally approved y accountants. It is mainly used by individuals nd very small business enterprises.

Equality and equilibrium constitute the under- ying principle of the double-entry system.[14] Jnder this system, every transaction is entered wice in the books of account. There is a debit ntry and a credit entry for every transaction. Both the debit and credit "sides" of the books lways total the same given amount at any given ime. Various accounts may be debited or redited on the principle that "that which re- eives value is a debtor, and that which gives or roduces value is a creditor." The particular ccounts may be named for some specified person r group of persons or for some subdivided phase f the company's own personal account. Thus e have personal accounts like "I. Jones & Co.," nd nominal or impersonal accounts like "Fur- iture and Fixtures."

Accounting is a record of progess and not nerely a statement of condition. Every trans- ction has an effect upon the company's affairs. he accounts will express the results of every ransaction, and every transaction will bring bout two of the following results: increase of ssets, decrease of assets, increase of liabilities,

decrease of liabilities, increase of proprietorship, decrease of proprietorship.[15]

There are two general types of books of account, the books of original entry and the books of final entry. The *journal* is typical of the books of original entry and the *ledger* is typical of the books of final entry. Generally, a number of journals are used. There may be a purchase journal which records the goods bought, from whom they were bought, price, department for which they are intended, and so on. The sales journal will give data with respect to sales orders. The cash journal will record all receipts and disbursements of cash. A petty-cash journal, a note journal and a pay-roll journal may also be used. The ledger is a book containing the accounts of the business. An account is a collection of debits or credits under one heading. The heading indicates the subject-matter to which the particular account refers and may be either personal or impersonal. Debit and credit items which appear in the books of original entry must be transferred or *posted* to their proper accounts in the ledger.

By the use of *controlling* accounts, the classification of accounts in the general ledger may be reduced to a comparatively small number. A *controlling* account is an account kept in the general ledger for the purpose of proving the accuracy of some subsidiary record. *Controlling,*

ıen, is the process of transferring to subsidiary
edgers, accounts which, instead of being kept in
ıe general ledger, are entered in special or sub-
diary ledgers. *Accounts Receivable* and *Ac-*
*ounts Payable* are illustrations of controlling
ccounts. They appear in the general ledger and
rove the correctness of the subsidiary *sales*
nd *purchase ledgers.* The sales ledger contains
record of customers' accounts. The main debit
ems come from the sales journal, and the main
redit items from the cash journal: but both
ebits and credits for customers' accounts may
ome from the general journal. The purchase
dger contains a record of creditors' accounts.
he principal debit items in this book are posted
rom the cash journal, and the main credit items
rom the purchase journal; but both debits and
redits for the creditors' accounts may come
rom the general journal.

From time to time and especially before the
reparation of any financial statements, trial
alances are taken off the ledger for the purpose
testing whether or not the books are in equilib-
um and whether or not transactions have been
ccurately recorded. A *trial balance* is simply a
st of the names and the totals of each open
dger account in terms of debits and credits.
ne column of figures in the trial balance shows
e total of each debit column in the ledger. The
her column in the trial balance shows the total

of each credit column in the ledger. The sum of the debits must equal the sum of the credits. Such a condition shows that there has been a debit entry for every credit entry, and that the addition is correct.

The transactions which result from continuous business operations are many and must be followed and recorded in detail by the accounting personnel. The financial officers of the company cannot follow these transactions in detail. Consequently, they are concerned, in the main, with the periodical financial statements of the company's condition and progress. The most important of these periodic financial statements are the balance sheet and the profit-and-loss statement. The fundamental statement is the *balance sheet,* which sets up the financial condition of the business at a particular time. It is a summary of all the company's possessions and obligations as of a particular date. It must show the value of the assets, the value of the claims against the assets, and the value of the difference.[16] However, since many transactions are incomplete at the time the balance sheet is made up, the balance sheet is only an expression of expert accounting opinion regarding the financial condition of a business at a given time.

The following balance sheet is typical of the form in which this statement is usually presented:

BROWN MANUFACTURING CO.[17]
Balance Sheet, January 31, 19—

| | | |
|---|---|---|
| *Assets* | | |
| Current Assets: | | |
| Cash | $ 6,550 | |
| Accounts Receivable ..... $30,100 | | |
| Less—Reserve for Bad Debts 300 | | |
| | 29,800 | |
| Raw Materials | 30,000 | |
| Goods in Process | 20,000 | |
| Finished Goods | 9,000 | |
| Total Current Assets | | $ 95,350 |
| Fixed Assets: | | |
| Machinery and Equipment | 70,000 | |
| Less—Reserve for Depreciation | 7,700 | 62,300 |
| Total Assets | | $157,650 |
| *Liabilities* | | |
| Current Liabilities: | | |
| Vouchers Payable | | $ 46,750 |
| *Capital* | | |
| Capital Stock | 82,000 | |
| Surplus | 28,900 | |
| Total Capital | | 110,900 |
| Total Liabilities and Capital | | $157,650 |

The profit-and-loss or income statement presents a history of what has occurred in a particular fiscal period. It explains in detail the transactions of the period and thereby records the efficiency and progress of the business. The following statement of income, profit and loss is

typical of the form in which this statement is usually presented:

BROWN MANUFACTURING CO.[25]
Statement of Profit and Loss for the Month Ended January 31, 19—

| | | |
|---|---|---|
| Sales | | $50,000 |
| Cost of Sales | | |
| Materials Consumed: | | |
| Inventory Raw Materials, Jan. 1, 19— | $20,000 | |
| Add: | | |
| Purchases of Raw Materials | $42,000 | |
| Freight Inward | 50 | |
| Cost of Purchases of Raw Material | 42,050 | |
| Total Material Supplies available for use | 62,050 | |
| Less Inventory Raw Materials Jan. 31, 19— | 30,000 | |
| Cost of Materials Consumed | 32,050 | |
| Direct Labor | 10,000 | |
| Prime Cost | 42,050 | |
| Manufacturing Expenses: | | |
| Indirect Labor | 3,000 | |
| Light | 50 | |
| Power | 250 | |
| Rent | 1,000 | |
| Insurance | 200 | |
| Repairs to Machinery | 200 | |
| Depreciation of Machinery and Equipment | 700 | |
| Total Manufacturing Expense | 5,400 | |

| | | |
|---|---|---|
| Total Cost of Goods Put in Process ... | 47,450 | |
| Add—Inventory—Goods in Process, Jan. 1 ..... | 15,000 | |
| Total Goods in Process Handled during the period ..... | 62,450 | |
| Deduct—Inventory—Goods in Process, Jan. 31 ..... | 20,000 | |
| Cost of Goods Manufactured ..... | 42,450 | |
| Add—Inventory Finished Goods, Jan. 1 | 10,000 | |
| Total Finished Goods available for sales ..... | 52,450 | |
| Deduct—Inventory Finished Goods, Jan. 31 ..... | 9,000 | |
| Cost of Goods Sold ..... | | $43,450 |
| Gross Profit on Sales ..... | | 6,550 |
| Operating Expenses: | | |
| Selling Expenses ..... | 2,650 | |
| Administrative Expenses ..... | 1,600 | |
| Total Operating Expenses ..... | | 4,250 |
| Operating Income ..... | | 2,300 |
| Other Income: | | |
| Purchase Discounts ..... | | 2,800 |
| Total Income ..... | | 5,100 |
| Deductions from Income: | | |
| Sales Discounts ..... | 1,900 | |
| Provision for Doubtful Accounts .... | 300 | |
| Total Deductions from Income... | | 2,200 |
| Net Profit for the Month ..... | | $ 2,900 |

It is clear that a great deal of valuable information can be obtained from a single balance sheet, and from a profit-and-loss or income statement for one period. However, it is equally obvious that changes in conditions which are made in a particular period can hardly be regarded as satisfactory or desirable changes unless they result in a financial improvement over a previous period. Results should be shown in comparative statements. By studying and analyzing the effects of a certain policy with respect to periods, the financial officers are in a position to evaluate the policy with reasonable accuracy.

More and more, the financial department is requiring and using statistical records to supplement the usual accounting statements. This tendency has broadened the scope of the work of the accounting group and of the financial officers from the mere expression of financial debits and credits to a larger field where real productive and constructive work is done. Statistical records present results measured in physical units. These records quite frequently explain facts brought out in the financial statements, facts which are not clearly understood until more light is thrown upon them.

Statistical records have become so important that the financial officers of progressive business enterprises make plans for collecting statistical information just as carefully as they do for col-

lecting accounting information. Statements are prepared which show the physical units produced, time records, schedules of accounts receivable, statements of new customers, inventory schedules, and so on. These reports may be compiled as often as once a week. The financial department receives them currently and takes note of any unsatisfactory condition in any department. Reliance, then, is not placed solely upon the primary accounting records.

Finally, it should be said that while accounting and statistical systems must be complete and detailed, care must always be exercised by the financial officers to see to it that the cost of operating the systems should be as economical as is consistent in obtaining the maximum of necessary information.

> A business ought to watch its accounting diet. With too little accounting the business may starve. With too much accounting it will be wasting energy in the time consumed and the salaries paid for the working of a system that may be unnecessarily detailed for its needs. After all, accounting is at best a road map. It can never be turned into an engine. Figures will move no goods nor will the most elaborate records, of themselves, add a single new customer.[19]

## XV

## TO-MORROW AND TO-MORROW

It is said that a lobster, when left high and dry among the rocks, has not urge and energy enough to work his way back to the sea, but waits for the sea to come to him. If it does not come, he remains where he is and dies, altho the slightest effort would enable him to reach the waves, which are tossing and tumbling within a yard. The world to-day is too full of human lobsters stranded on the rocks of traditional business organization and methodology, calmly waiting for some grand billow of future fortune, or, perhaps, drifting for the time in the main currents of prosperity by pure chance and without any charted effort to direct their course. And yet, there can be neither security or assured prosperity in our present economic society if we depend upon the thinking of the economic drifter and of the complacent business manager. Limp thinking is in no way to be trusted, and the future is of moment to us all.

"To-morrows are more and more embodied in to-day," and "The journeys of next week are here before the week arrives."[1] In the actual conditions of the present there is a deal of fact and evidence which furnishes a sound base

for significant speculation. Moreover, while changes often burst upon our economic institutions and our business methodology with astounding speed, everywhere the old and the familiar put up a front to meet the challenge of change. The fundamental economic institutions have a hold which cannot be quickly or easily loosened. Consequently, certain cautious inferences with respect to the new conditions and the new problems of the next decade would seem to be in order. The germs of these new conditions and new problems are already implanted in the soil of the present.

The present has an extended reach. It is an "area of time that reaches fore and aft" from this minute "a score of years or more."[2] Although this chapter is entitled "To-morrow and To-morrow," what it really attempts to do is to look squarely at the present "under the restraint of the lessons of the past." If it extends the present into the future, it does so "under spur of imagination as to the possibilities of the future," but it still looks squarely at the present in its true time-significance.

In the field of production, the United States leads the world. While our country contains only 7 per cent. of the world's territory and only 6 per cent. of its population, it produces 70 per cent. of the world's motor-cars, 66 per

cent. of the world's oil, 60 per cent. of the world's cotton, 55 per cent. of the world's timber, 40 per cent. of the world's iron and steel, 38 per cent. of the world's electric power, 85 per cent. of the world's films.

> Everywhere we see automobiles that really look like pleasure vehicles. And it takes no Argus to find tires that will go 25,000 miles, brushing lacquer that dries in 30 minutes, washing machines that are wringerless, movie cameras that slip into a coat pocket, clocks that run by electricity, boilers that feed themselves, farm machines that cut and thresh grain at one operation.[3]

Out of our laboratories and our factories tumble an ever-increasing tonnage of goods. And the net increase in tonnage since 1922 is small as compared with the astounding growth in the variety of goods.[4] The tempo of our industrial manufacturing is perfectly amazing. Per-capita productivity has increased by 30 or 40 per cent in the past decade and is still increasing. The growth in our utilization of power is 3¾ times faster than the growth in population.

We are, of course, wedded to a policy of mass production at low manufacturing costs. Under such a commitment, it will be surprizing if additional efforts are not in store for industry which still further will speed up the process of manufacturing and result in increased quantities of

vailable goods. Moreover, business management ecognizes that the consumer seldom resists the ppeal of obsolescence. More and more, the new'' product is desired before the ''old'' roduct is worn out.[5] Because of the consumer nd the advancing contributions of science in roduct development, the opportunity to pro- uce the new and the slightly different is always ıticing to the producer. We need to expect an ıcreasing variety of goods.

Cloth and paper are "slipping up from behind" with a flame-resistant process, thus freeing them from an ancient handicap in competition. Oil "looks across and beyond" and anticipates an engine designed to use pulverized coal. Chemistry, by the development of antioxidants, saves rubber tubing, about to be discarded by the player-piano industry, by lengthening its life ten times. The furniture industry is not asleep to the advance of metal tables, chairs, and beds in colors, and comes to grip with the sheet-metal makers.

In the research department of one of the great rubber companies is what might be called a "closet of the future." In it are all sorts of rubber articles. They are waiting for to-morrow. Their production is too costly for present competition.

But let external forces appear—leather prices go up, rubber prices go down, or the processing be cheapened a bit—and "present competition" will feel the pinch unless it has anticipated those external forces.[6]

So far as amounts and varieties of products are concerned, the future probably holds for us wonder after wonder. Amazing achievement will follow on amazing achievement with a rapidity that will find no measure in our outworn stock of superlatives.

Three important observations would seem to be pertinent in this connection. In the first place, our industrial management and our manufacturing processes have become so expert already, that we have passed the point where our manufacturing output, "functioning steadily day in day out, can be absorbed by the consuming population."[7] We probably have in the United States, even to-day, twice as much industrial-plant capacity as can be kept in steady operation without loading down the manufacturers' inventories far beyond the danger point. In the second place, much of our increased factory output is in the nature of comforts and luxuries which bid for the consumer's dollar and often win large portions of it at the expense of prime essentials. Finally, the consumer is very rapidly extending the factors of style and taste to the purchase of products in which these factors have scarcely figured before.

What, then, of manufacturing on the morrow? For one thing, business management will come to a clearer understanding of the fact that mass production at low cost presupposes mass dis-

tribution at relatively low prices. Since low prices depend upon low total costs, there will be a more general realization of the marketing limitations upon mass production. Low manufacturing costs under a system of mass production necessitate the standardization of the product line which is being manufactured, and a large volume of continuous sales. The attainment of results is put squarely up to distribution and marketing. Paul Mazur summarizes the matter succinctly and forcefully:

> High-cost distribution is the price exacted by mass production. Altho the services which high-pressure distribution has rendered to low-cost production are enormous, nevertheless the economies of manufacturing are being offset by the increasing cost of sales. Undoubtedly this in turn has stimulated new inventive and engineering skill to increase production efficiency, but there is a limit even to this possibility; and it is not at all an inspiring experience to find the rewards of manufacturing ingenuity swallowed up by increased marketing costs. Moreover, when economy in production has exhausted its major possibilities, a continuation of rising costs of sales will reflect itself in lower profits; and even with the hero-worship that exists for mass production, the American business man does not believe in volume for sake of volume unabetted by a substantial profit-showing.[8]

In the future it is unlikely that manufacturers will attempt to apply mass production to the

manufacture of goods which are purchased with the factors of style and taste as dominating buying motives. Already there are indications of the soundness of this statement. The manufacturer of goods which cannot be highly standardized must maintain a flexibility in his plan which will permit him to adjust his production to new demand-tendencies on short notice. Even tho goods can be standardized, if they will not sell more or less continuously and in volume in competition with similar goods that are changed very frequently, it is unprofitable to manufacture them under a system of mass production. In the manufacture of such goods, the trend to-day is away from centralization and large factory units. In fact, the trend is quite definitely toward decentralization and smaller units.

Unquestionably, many manufacturers are already recognizing the fact that what they have been calling overproduction or underconsumption is simply the wrong kind of production. They see with increasing clarity that the wrong kind of output must be sold under distress conditions if it is sold at all. Reluctant as they are to decrease prices, they find it necessary to increase the sales pressure and to plunge into exorbitant marketing costs. These marketing costs increase the total costs and decrease profits. Systematic mass production does not pay for some types of products.

Along with this development in manufacturing, undoubtedly, the principles of mass production will be applied in "backward" industries where the standardization of goods is possible. Such industries as coal-mining, textiles, clay products, the needle trades, and so on, can well undergo considerable improvement in their technological processes of manufacture.[10] Mass production, however, is not desirable in all of these "backward" industries.

Again, there will probably be a considerable increase in manufacturing mergers as a result of a growing body of thought in such matters as have been pointed out above. Many attempts will be made to merge concerns which produce standardized goods on a mass-production basis with plants which produce goods that are dominated by factors of style and taste. In such mergers, one group of plants can be operated as flexible units while one large plant can be made to tumble its products off the assembly line in volume and with regularity.

On the side of distribution or marketing, present trends indicate many changes in the years that are just ahead. The seriousness of the problem of effective and economical marketing costs has been borne in upon the most complacent during the past decade. We are conducting our business operations in an "age of distribution," an age which has already begun to demand a

thorough overhauling of marketing activities. Unquestionably, the drive for economy in distribution will result in the application of scientific procedure to the study of marketing problems. Already, great progress is being made by individual sellers in attacking the question of marketing costs.

In methods of distribution there are two present-day developments of importance—chain-store selling and instalment selling. We have in the United States to-day over 10,000 chain-store organizations with more than 100,000 retail outlets. In 1928 the sales of these chain-store organizations were estimated at 6.2 billion dollars or 15 per cent. of the country's retail trade. In the month of September, 1929, 41 new chain-store organizations opened 1,074 stores. Sales on the instalment plan probably total over six billions of dollars in this country to-day. The method is generally recognized and is particularly important in the marketing of automobiles, washing machines, vacuum cleaners, electric and mechanical refrigerators, oil burners, stoking devices, radios, phonographs, furniture, pianos and jewelry.

The chain retail store appears to be with us for a considerable stay. The available facts seem to indicate that the chain store is an intelligent experiment in financing and operating retail establishments. By buying in quantity the chain

makes its purchases at favorable prices. By eliminating slow-selling items, it cuts down its inventories. By practically discontinuing delivery, it reduces its operating expenses. By selling on a cash basis, it escapes the burden of credit losses. By scientific management, careful store arrangement, trained salesmanship, and judicious advertising, it secures volume of sales at low cost. The following statement with respect to the food industry is typical of actual results:

> When it is realized that they (the chain stores) have substituted for the wholesale grocers' operating percentage of 10½ per cent. and a retailer's percentage of 18½ per cent., making 29 per cent. in all, a total operating cost for the combined agencies of 16 per cent. divided 5 per cent. for warehousing and 11 per cent. for retailing, representing a saving of 13 per cent., it must be recognized that they have built, upon a solid rock of savings, a business house that will remain unshaken and undisturbed.[11]

It appears from reliable data that it is difficult for any retail business to count consistently and continuously on a net profit of more than about 2½ per cent. Consequently, unless a retail business can make more than $50,000 worth of sales per year, the proprietor of the particular retail establishment cannot count on a weekly profit of much over $23. "This is less than the market price for good brains of the necessary type."[12] In the recent so-called Test Census

of Distribution covering 80,000 independent retail stores in eleven cities, it is pointed out that 28 per cent. of the stores were trying to make living profits out of 1.6 per cent. of the business, and that 88 per cent. of the stores doing about 30 per cent of the business sold less than $50,000 worth of goods each. So long as independent retailing implies incompetent operating practise or wasteful operating scale, there seems to be no doubt that the chain store will continue to flourish.

Many independents have taken a leaf from the book of the chain store. Instead of fighting the chain store and lobbying for restrictive legislation against it, they are forming voluntary chains. These voluntary chains assist in maintaining personal ownership in the retail, and even the wholesale business, but they adopt many of the fundamental principles of chain-store operation. In the grocery field, at the present writing, 65 per cent. of the total number of retail stores are independents. Of the remaining 35 per cent., 17 per cent. are chain stores and 18 per cent. are voluntary groups of independents. In this field, the voluntary chains have already exceeded the genuine chains.

To what extent chain stores will supplant the independents, and to what extent the independents will unite in voluntary groups until the 65 per cent. now operating actually inde-

pendently have been supplanted or absorbed, depends upon the comparative creative and progressive ability and spirit and the business and managerial capacity of the executives of the respective groups.[13]

In the early days the chains were owned by individuals or by groups of associated partners. But to-day they are passing into the hands of large corporations. A program of a thousand new stores in the course of a single year is not an impossibility. Small chains are slowly expanding into larger ones, and large groups are merging other large groups. In 1917, a group of five large chains headed by the Acme Tea Company united and formed the American Stores Company with 1,223 stores. In 1928, the National Tea Company acquired a number of smaller chains and added 400 retail outlets in the year. The Walgreen drug chain started in 1927 with 106 stores. At the end of one year it had 200 stores. The Kroger Grocery Company has swallowed up ten medium-sized chains and now has 5,000 stores. There are 10,000 meat markets run by chain grocery companies, in addition to 2,000 markets in straight meat chains. Out of 800 grocery chains 262 have added meat departments to some of their stores. The Mirror Candy Stores are absorbed by the Happiness Candy Stores, the Happiness Candy Stores are absorbed by the United Cigar Stores, and the United Cigar

Stores are absorbed by the Gold Dust Corporation. And so it goes. While the ownership of the chains tends to concentrate in the hands of fewer and larger corporate organizations, the ownership of the corporations themselves tends to diffuse among a larger number of stockholders. Those chain stores which were once owned by a few thrifty merchant princes are now owned by hundreds of thousands of investors. The process of distributing hundreds of millions of shares of chain-store stock is going on all the time.[14]

Already there are evidences of a growing struggle between the manufacturer and the retailer for the consumer's loyalty. Some manufacturers look upon chain and large-scale retailing in fear and trembling. They begin to think of controlling retail outlets through the establishment of manufacturers' chains. They want to get closer to the consumer in order that they may, through contact and behind-the-counter salesmanship, develop loyalty for manufacturers' brands. They see the desirability of "push" methods of marketing as a complement to the "pull" methods of national advertising to the consumer.

Furthermore, the competition of the meat chains and the rapid growth of the meat departments of grocery chains is causing concern. On their own side of the fence, the chains are increasing their efforts to win consumer loyalty

for store or "private" brands and are reaching toward the control or ownership of their own manufacturing sources of goods.[15] The large grocery and meat chains have set out to produce their own meats. They have acquired many small local packing-houses, and they are establishing others. They have found that they are frequently able to sell fresh meats to the consumer at just about the price they would have to pay Swift and Armour. Thus, they can undersell the local dealers and still make a fair profit. They are proceeding with their program of opening modest-sized packing-plants in sections contiguous to the source of supply. They are bringing back the old-time slaughter-house, which was forced out of business a generation ago by the large packing companies.

This one instance is indicative of the important marketing battles for consumer loyalty which are ahead.

Instalment selling, too, appears to have come to stay. It is used by the manufacturer who sells through his own outlets and by the large-scale retailer who buys where he will. As yet, of course, it has not been thoroughly tested as a permanent credit device. It will be still further examined, discussed, and altered. Without doubt, one of the greatest, if not the greatest social problem of any nation is concerned with the intelligence or lack of intelligence with which

its citizens use their personal incomes. For this reason there are many altruistic fanatics who decry the practise of instalment selling in all its aspects. They feel that instalment selling has "created some six billions of new purchasing power out of thin air." They are positive that people are buying goods beyond the point of good judgment and beyond their ability to pay. This is not the general attitude of business, but there is growing evidence that distributers realize that cash must ultimately be paid in any system of instalment selling—cash plus 15 per cent. interest on the average. Purely business considerations are stimulating study and inquiry into how far people may go in spending up to their full capacity to pay, and how far they can obligate themselves for debts "based upon a relatively uncertain assurance that the capital will be produced to meet those debts." There is already the growing suspicion among many business men that if the "wholesale urge" to mortgage incomes before they are actually earned becomes a continuous and consistent method for the possession of the common articles of everyday use, business may suffer as well as the general good.

On the score of finance, the increasing temptation to spend which is the result of modern marketing has not seriously affected savings and investments. Life insurance policies in force

passed the billion-mark in the autumn of 1929. The number of American stockholders is estimated by the President's Committee on Recent Economic Changes as 17,000,000 or one in every seven of population. The expansion of the investment trust is perhaps the most important financial development of the last decade. Through such organizations the small investor helps to finance all kinds of business enterprises. It is estimated that more than three billion dollars has gone into the security issues of the investment trusts, more than half of it within the past year and a half.

Another important development in the field of finance is the growth of the chain idea as applied to banking. These new groups or chain-banking systems are of three principal types. First, there are those groups in which the dominant element is a particular bank exercising direct or indirect, but perfectly definite, control over a number of other banks. Some 77 chains of this type are in existence, involving 402 banks and representing $6,104,000,000 in banking resources. Again, there is the chain system in which a non-banking holding company is the dominant element. Some 28 chains of this type are in existence, involving 311 banks and representing $4,929,000,000 in banking resources. Finally, there is the chain system in which the dominant control is exercised by individual per-

sons or groups of individuals acting for themselves. There are some 167 instances of this type of chain, involving 1,071 banks and representing about $1,468,000,000 in banking resources.

> Generally speaking, but not universally, banking laws make it impossible for banks to build corporate chains directly. National banks are not permitted to invest in the stocks of other corporations, and this is also the law in a great many States as to State banks, altho trust companies ordinarily are allowed to make such investments. Therefore, broadly speaking, existing laws have resulted extensively in chain-bank organizations being controlled either by a holding company created specifically for the purpose and owned pro rata by the bank's stockholders or by a trust for the benefit of stockholders or a given bank or group of banks. Closeness of tie, however, between the dominant banks and a chain system is not seriously impaired by those legal devices, which after all amount merely to a paper partition in the organization controlling the bank chain, with physical arrangements, management and operating personnel virtually a unit.[16]

These new banking chains have many seeming advantages. They can adopt and standardize the best accounting and auditing methods. They can provide a greater mobility of commercial banking funds with safety and propriety. They can handle desirable loans, too large for an individual bank, by dividing the loan with the

holding company and other members of the chain. Moreover, they are able to secure a geographical distribution of risk as well as a diversification of credits and investments. If mergers, consolidations, inter-industry competition, and cooperative association are the necessary instrumentalities to produce and market in the future, then the banking facilities must be marshaled and organized in order to furnish credit for these mass operations.[17] If these chains can succeed in preserving the local character of their individual establishments by retaining local management and personnel and distributing chain stock through the communities which they serve, they will probably persist and expand.

Such, in brief, are some of the manufacturing, marketing, and financing tendencies of the immediate future. The list is short and the treatment sketchy, but the limitations of space forbid extension and expansion. However, one thing seems sure—all these tendencies are working in the direction of large-scale business organization and operation by means of merger, consolidation, and associated enterprise. What, then, will be the effect of all this upon the economic anomaly which was expressed in our first chapter? Will it be resolved, compromised, integrated or intensified?

The conflict between the individual business interest in making money and the social interest

in the making of goods cannot be resolved under a business or money-profits economy. A complete resolution of this conflict would be possible, theoretically, under a system of communism. Under such a system, the community would own and control production as well as direct the distribution of goods among its citizens. The rough formula goes as follows: "From each according to his abilities, to each according to his needs." Theoretically, if distributive shares are predetermined, each individual in society would gain most when production was greatest. Under this type of system, the profit motive would be eliminated. But such a condition does not present any likelihood of increased production of goods with a consequent higher average level of well-being. Moreover, it is perfectly evident "that what is everybody's business is nobody's business, and that the socialization of responsibility makes for individual irresponsibility."[18] The pertinent question is simply this: what motive other than money-profits will impel individuals to exert their full abilities in producing goods? What price a system of ideal distribution if there is nothing to distribute? Finally, any system which restricts liberty and limits freedom of choice might give the individual in society a larger material supply of goods, but it would surely "result in a lessening of total gratifications."

Again, this conflict may be resolved under a

system of anarchism, the complete individualization of responsibility for production. If each individual or family produced all that it consumed and consumed all that it produced, we would have such a system. "Exchange would not occur—and so 'society,' in its economic sense, would cease to exist." [19] Nevertheless, the material welfare of every individual would depend upon his productive activities. Such a system, however, is almost unthinkable.

Now, various degrees of compromise may be effected between the two conflicting aims of the individual and of society. Social control of the process of want-satisfaction is the method of compromise, and this social control may take the form of direct participation by the government (socialism) or the form of governmental regulation of private enterprise and capitalism. Socialism advocates the collective ownership or democratic management of production. It does not go so far as communism, in that it advocates not an equal distribution of wealth, but rather a change in the method of "directing production and distributing incomes." While there are many brands of socialism, it may be said that fundamentally most socialists believe in the following principles: First, the abolition of the rights of private ownership in the means of production, with retention of private property

in articles of personal use. Second, the administration of the means of production collectively through a democratic political organization. Such a system would add greatly to the powers of government and increase the number of government offices. This would increase the number of candidates and intensify elections and preceding campaigns. "Even business competition is probably less wasteful than a political campaign."[20] Moreover, a system of complete social ownership inevitably becomes inflexible and bureaucratic. It cannot quickly adjust itself to changes in demand or to new methods of production. It would not, in all probability, be able to administer and operate productive machinery at any approach to its present efficiency, however unsatisfactory that may be. Finally, the system does not express actual human nature.

> It is very difficult for us even to amuse ourselves without some element of competition. Find out what amuses people, what gives them a thrill or leads to a feeling of exaltation, and you at least have a clue to some of the essential qualities in human nature. You will not have to go very far to discover that tens of thousands of people will turn out to witness a competition of one sort or another, ranging all the way from prize fights to games of golf. Newspapers, which probably sense the public feeling pretty accurately, will give columns of space to games of chess or whist. You will have to go a long way before you find tens of thousands of people

turning out to watch men cooperate, where there is no element of competition involved."[21]

Whatever general social control of business activity is to be exercised in the next decade will, in the main, take the form of government regulation, restriction, and promotion, rather than of direct governmental participation in production on any extended scale. Private enterprise and the incentive of money-profits based on private property will continue to be the rule.

Finally, it should be pointed out that the present trends in business management are actually tending toward an integration of the economic anomaly. Under present and probable future conditions it is and will be more necessary than ever to make goods in order to make money-profits. Moreover, it will be necessary to avoid the overproduction of the wrong kind of goods. Manufacturing, marketing, and financing trends, when closely examined, indicate a decided tendency toward the making, handling, and selling of more tangible goods and services, and goods and services which are valuable in their "net effect on health, happiness, and habits." In this direction lies the integration of the great economic conflict.

Through the combination of integration and compromise by means of government regulation, restriction, and promotion will come the future adaptation of our present economic system in

the interests of softening the intensity of the economic anomaly.

> Thousands of experiments have been tried with all sorts of social plans, institutions, and systems. Up to the present time, the one under which we are now living has produced somewhat better results, or, to put it mildly, has worked a little less badly than any other. A mechanical engineer or a plant breeder would, under similar circumstances, select it for further experimentation and improvement rather than scrap it altogether and start with something that was entirely new and untried.[29]

# BIBLIOGRAPHY

## Notes to Chapters in Part I (Vol. IX)

### CHAPTER I


1. Aldous Huxley, *Proper Studies*, Doubleday, Doran & Co., New York, 1923, p. 30.
2. Charles A. Beard, editor, *Whither Mankind*, Introduction, Longmans, Green & Co., New York, 1928.
3. *Ibid.*, p. 13.
4. Stuart Chase, *Men and Machines*, The Macmillan Company, New York, 1929, p. 69.
5. Cf., Wesley C. Mitchell, *Business Cycles*, National Bureau of Economic Research, Inc., New York, 1927, p. 63.
6. *Ibid.*, p. 65.
7. Horace Taylor, *Making Goods and Making Money*, The Macmillan Company, New York, p. 28.
8. Mitchell, *Business Cycles*, pp. 65-66.
9. Nassau William Senior, *Political Economy*, London, 1854, pp. 26-28.
0. *Ibid.*
1. Thomas Nixon Carver and Hugh W. Lester, *This Economic World*, A. W. Shaw Company, Chicago, 1928, p. 94.
2. William Trufant Foster and Waddill Catchings, *Profits*, Houghton Mifflin Company, Boston, 1925, p. 20.
3. Sidney and Beatrice Webb, *The Decay of Capitalist Civilization*, Harcourt, Brace & Co., New York, 1923, pp. 84-85.
4. Cf., Carver and Lester, *This Economic World*, p. 84.
5. R. H. Tawney, *The Acquisitive Society*, Harcourt, Brace & Co., New York, 1921, p. 53.
6. Cf., Foster and Catchings, *Profits*, p. 15.
7. Wesley C. Mitchell, *Making Goods and Making Money*, a paper read before joint sessions of the American Economic Association and the American Society of Mechanical Engineers, December 6, 1922. Quoted in part by Taylor in *Making Goods and Making Money*, pp. 29-30.

18. *Ibid.*
19. Carver and Lester, *This Economic World*, p. 78.

CHAPTER II

1. John H. Randall, Jr., *Our Changing Civilization*, F. A. Stokes Company, New York, 1929, p. 50.
2. Beard, *Whither Mankind*, Introduction, p. 13.
3. Lynn Thorndike, *The History of Medieval Europe*, Houghton Mifflin Company, Boston, 1917, p. 13.
4. Cf., Carlton J. H. Hayes, *A Political and Social History of Modern Europe*, The Macmillan Company, New York, 1921, Introduction, p. xxii.
5. Cf., Beard, *Whither Mankind*, Introduction, p. 12.
6. Thorndike, *The History of Medieval Europe*, pp. 2-3.
7. H. G. Wells, *The Outline of History*, The Macmillan Company, New York, 1923, pp. 164-165.
8. Cf., W. Cunningham, *Western Civilization in Its Economic Aspects*, Cambridge University Press, 1898, Vol. I, p. 85.
9. Ridgeway, *Origin of Currency*, pp. 49, 313-318. See Cunningham, *Western Civilization*, p. 85.
10. H. G. Wells, *The Outline of History*, p. 165.
11. Chase, *Men and Machines*, p. 42.
12. Clive Day, *A History of Commerce*, Longmans, Green & Company, 1922, p. 10.
13. Frank Presbrey, *The History and Development of Advertising*, Doubleday, Doran & Co., Garden City, New York, 1929, p. 4.
14. Cf., C. A. Herrick, *History of Commerce and Industry*, The Macmillan Company, 1925, p. 30.
15. Cf., Arthur H. Woolf, *Short History of Accountants and Accountancy*, London, 1912. Chapt. II.
16. Albert T. Clay, *Business Documents of Murashu Sons of Nippur*, University of Pennsylvania Press, Philadelphia, 1904.
17. Ihering, *Evolution of the Aryan*, pp. 204-205.
18. Herrick, *History of Commerce and Industry*, p. 37.
19. *Ibid.*, p. 47.
20. Cf., Cunningham, *Western Civilization*, p. 144.
21. Herrick, *History of Commerce and Industry*, p. 37.
22. *Ibid.*, p. 60.
23. Day, *A History of Commerce*, p. 18.

24. Cunningham, *Western Civilization*, p. 86.
25. Blumner, *Home Life of the Ancient Greeks*, 517; *Cambridge Companion to Greek Studies*, 433.
26. Cunningham, *Western Civilization*, pp. 106-107.
27. Presbrey, *The History and Development of Advertising*, p. 5.
28. Blumner, *Home Life of the Ancient Greeks*, pp. 510-513.
29. H. DeB. Gibbons, *The History of Commerce in Europe*, Macmillan & Co., London, 1920, p. 26.
30. Charles A. and Mary R. Beard, *The Rise of American Civilization*, The Macmillan Company, New York, 1927, Vol. II, p. 168.
31. *Ibid.*
32. Cunningham, *Western Civilization*, p. 192.
33. Presbrey, *The History and Development of Advertising*, p. 8.
34. Mitchell, *Business Cycles*, p. 67.

CHAPTER III

1. Cf., Cunningham, *Western Civilization*, I, p. 197.
2. Cf., Mitchell, *Business Cycles*, p. 67.
3. Cunningham, *Western Civilization*, I, p. 202.
4. *Ibid.*, p. 198.
5. Thorndike, *The History of Medieval Europe*, pp. 184-185.
6. Gibbins, *The History of Commerce in Europe*, p. 36.
7. *Ibid.*, p. 37.
8. Cf., Alan F. Hattersley, *A Short History of Western Civilization*, The Macmillan Company, New York, 1927, p. 60.
9. *Ibid.*, p. 62.
10. Cf., Day, *A History of Commerce*, p. 33.
11. *Ibid.*, p. 36.
12. Cf., Gibbons, *History of Commerce in Europe*, p. 58.
13. Cf., Robinson, *History of Western Europe*, p. 190.
14. Thorndike, *The History of Medieval Europe*, p. 323.
15. Herrick, *History of Commerce and Industry*, p. 125.
16. Thorndike, *The History of Medieval Europe*, p. 327.
17. Day, *A History of Commerce*, p. 42.
18. Robinson, *History of Western Europe*, pp. 237-239.
19. Hattersley, *A Short History of Western Civilization*, p. 145.

20. *Ibid.*, p. 145.
21. Gibbins, *The History of Commerce in Europe*, p. 40.
22. Herrick, *History of Commerce and Industry*, p. 112.
23. *Ibid.*, 114.
24. *Ibid.*, 112.
25. Cunningham, *Western Civilization*, II, 94.
26. Julius Klein, "Business," *Whither Mankind*, p. 88.
27. Robinson, *The History of Western Europe*, pp. 6-7.

CHAPTER IV

1. Julius Klein, "Business," *Whither Mankind*, p. 90.
2. Hayes, *A Political and Social History of Modern Europe*, p. 63.
3. W. Cunningham, *The Growth of English Industry and Commerce in Modern Times*, Cambridge University Press, 1925, p. 166.
4. Hayes, *A Political and Social History of Modern Europe*, p. 63.
5. *Ibid.*, p. 65.
6. Mitchell, *Business Cycles*, p. 67.
7. Day, *A History of Commerce*, pp. 155-156.
8. Quoted by Clive Day, *A History of Commerce*, p. 151.
9. Cf., Hattersley, *A Short History of Western Civilization*, p. 160.
10. Cf., Cunningham, *The Growth of English Industry and Commerce*, p. 75.
11. Day, *A History of Commerce*, p. 142.
12. Cf., Hattersley, *A Short History of Western Civilization*, p. 163.
13. Cunningham, *The Growth of English Industry and Commerce*, p. 552.
14. J. M. Oxley, *The Romance of Commerce*, Thomas Y. Crowell & Co., New York, 1896, p. 18.
15. *Ibid.*, pp. 20-21.
16. *Ibid.*, p. 22.
17. Cf., Hattersley, *A Short History of Western Civilization*, p. 168.
18. *Ibid.*, p. 169.
19. Mitchell, *Business Cycles*, p. 72.
20. Charles A. and Mary R. Beard, *The Rise of American Civilization*, Vol. I, p. 89.
21. *Ibid.*, p. 95.

22. Taylor, *Making Goods and Making Money,* p. 63.
23. Charles A. and Mary R. Beard, *The Rise of American Civilization,* Vol. I, p. 633.
24. Cf., Taylor, *Making Goods and Making Money,* p. 64.
25. Cf., Charles A. and Mary R. Beard, *The Rise of American Civilization,* Vol. II, p. 176.
26. *Ibid.,* Vol. II, pp. 176-177.
27. Cf., Julius Klein, "Business," *Whither Mankind,* p. 101.
28. Chase, *Men and Machines,* p. 88.
29. *Ibid.,* p. 91.
30. Cf., Mitchell, *Business Cycles,* p. 74.

CHAPTER V

1. Cf., James J. Walsh, *The Thirteenth, the Greatest of Centuries,* Catholic Summer School Press, New York, 1920.
2. Cf., E. W. Brandes, "Into Primeval Papua by Seaplane," *National Geographic Magazine,* September, 1929, pp. 253 ff.
3. Beard, *Whither Mankind,* Introduction, p. 12.
4. *Ibid.,* p. 13.
5. Cf., Norman Gras, *An Introduction to Economic History,* Harper & Brothers, New York, 1922, Chapters I-IV.
6. Herodotus, *Historia,* translated by Rawlinson, Vol. I, London, 1858.
7. Tacitus, *Germania,* translated by W. Peterson and M. Hutton, The Putnam Company, New York, 1914, p. 331.
8. Strabo, *Geography,* translated by Hamilton, London, 1887, Vol. III, p. 198.
9. A. Bernard and N. Cacroix, *L'Evolution du nomadisme en Algerie.*
0. Elizabeth E. Hoyt, *The Consumption of Wealth,* The Macmillan Company, New York, 1928, p. 113.
1. *Ibid.*
2. *Ibid.,* p. 114.
3. *Ibid.*
4. Chase, *Men and Machines,* p. 138.
5. Cf., Frederic C. Howe, *The Modern City and Its Problems.* Scribners, New York, 1915, p. 39.
6. Cf., Chase, *Men and Machines,* p. 140.

17. *Ibid.*, pp. 139-149.
18. Charles A. and Mary R. Beard, *The Rise of America Civilization*, Vol. II, p. 715.
19. *Ibid.*
20. Cf., Chase, *Men and Machines*, p. 95.

CHAPTER VI

1. Mitchell, *Business Cycles*, p. 86. See also, Werne Sombart, *Der Moderne Kapitalismus*, 1st ed Leipzig, 1902, Vol. I, p. 195.
2. Cf., Willard L. Thorp, *Economic Institutions*, Th Macmillan Company, New York, 1928, p. 227.
3. Cf., Mitchell, *Business Cycles*, p. 86.
4. See the three estimates compared by Dr. Leo Wolma in *The Growth of American Trade Union* National Bureau of Economic Research, Ne York, 1924.
5. Mitchell, *Business Cycles*, p 89.
6. Charles A. and Mary R. Beard, *The Rise of America Civilization*, Vol. II, p. 205.
7. Cf., Mitchell, *Business Cycles*, p. 86.
8. Charles W. Gerstenberg, *Principles of Business* Prentice-Hall, Inc., New York, 1918, p. 114.
9. *Ibid.*, p. 114.
10. *Ibid.*, p. 115.
11. Cf., Thorp, *Economic Institutions*, pp. 245-246.
12. Leon C. Marshall and Mildred J. Wiese, *Moder Business*, The Macmillan Company, New York 1926, p. 405.
13. Thorp, *Economic Institutions*, p. 251.
14. Albert W. Atwood, "The Merger Movement," *Satur day Evening Post*, August 17, 1929, p. 79.
15. Paul M. Mazur, *American Prosperity*, The Viking Press, New York, 1928, pp. 199-200.

CHAPTER VII

1. Alvan T. Simonds, *Business Fundamentals*, The Ronald Press, New York, 1923, p. 94.
2. Cf., Mitchell, *Business Cycles*, p. 157.
3. Cf., Taylor, *Making Goods and Making Money*, p 127.

4. Cf., Mitchell, *Business Cycles*, p. 182.
5. Paul M. Mazur, *American Prosperity*, p. 12.
6. Cf., Stuart Chase, "An Authentic Genius," *Bulletin of the Taylor Society*, February, 1925, p. 67.
7. Frank Barkley Copley, *Frederick W. Taylor, Father of Scientific Management*, Harper & Brothers, New York, 1923, Vol. I, p. xvi.
8. Frederick W. Taylor, *Principles of Scientific Management*, Harper & Brothers, 1911, pp. 129-130.
9. Cf., Taylor, *Making Goods and Making Money*, p. 131.
10. Cf., Stuart Chase, "An Authentic Genius," *Bulletin of the Taylor Society*, February, 1925, p. 67.
11. John Sullivan, "Making the Marketing Dollar Work Harder," *The Management Review*, January, 1928, pp. 3-12.
12. Cf., Paul Mazur, *American Prosperity*, p. 15.
13. John Sullivan, "Making the Marketing Dollar Work Harder," *The Management Review*, January, 1928, pp. 3-12.
14. *Ibid.*
15. Harlow S. Person, "Major Problems of Management," *Scientific Foundations of Business Administration*, Henry C. Metcalf, Editor, The Williams and Wilkins Company, Baltimore, 1926, pp. 236-251.
16. Cf., Horace Taylor, *Making Goods and Making Money*, pp. 131-135.
17. Based on Willard L. Thorp's *The Integration of Industrial Operation*, Census Monograph No. III (Bureau of Census, 1924), pp. 86-88. See also Taylor, *Making Goods and Making Money*, pp. 85-87.
18. John A. Hobson, *The Evolution of Modern Capitalism*. The Walter Scott Publishing Co., London, Revised Edition, 1926, p. 139.
19. Cf., Taylor, *Making Goods and Making Money*, pp. 88-93.
20. For a detailed discussion see *Trade Associations, Their Economic Significance and Legal Status*, National Industrial Conference Board, New York, 1925.

21. Cf., Taylor, *Making Goods and Making Money,* p. 197.
22. Julius Klein, "Business," *Whither Mankind,* p. 105.

## NOTES TO CHAPTERS IN PART II (VOL. X)

### CHAPTER VIII

1. Quoted by Harrison E. Howe, "Trade Bodies Put Science to Work," *The Nation's Business,* February, 1928, p. 26.
2. Cf., Herbert Hoover, "The Nation and Science," *Mechanical Engineering,* February, 1927.
3. Cf., Mitchell, *Business Cycles,* p. 161.
4. *Ibid.,* p. 159.
5. Thorstein Veblen, *The Vested Interests and the State of the Industrial Arts,* B. W. Huebsch, New York, 1919, p. 37.
6. Stuart Chase, *Men and Machines,* p. 104.
7. Ralph C. Epstein, "Industrial Invention: Heroic or Systematic?" *Quarterly Journal of Economics,* February, 1926.
8. Henry Ford, in collaboration with Samuel Crowther, *To-day and To-morrow,* Doubleday, Page, New York, 1926, pp. 62-67.
9. Speech at the opening of the Research Laboratory of the Gas Light and Coke Company, Fulham, England.
10. Cf., Mark Sullivan, *Our Times,* Scribners, New York, 1926, Volume I, p. 61.
11. Mitchell, *Business Cycles,* p. 160.
12. Cf., H. E. Howe, "Trade Bodies Put Science to Work," *The Nation's Business,* February, 1928.
13. *Ibid.,* p. 27.
14. Cf., *ibid.*
15. Cf., Ray M. Hudson, "Organized Effort in Simplification," *The Annals of the American Academy of Political and Social Science,* May, 1928, p. 3.
16. Cf., Paul E. Holden, "Intra-Plant Standardization," *The Annals,* May, 1928, pp. 115-116.
17. Cf., C. L. Warwick, "The Work in the Field of Standardization of the American Society for Testing Materials," *The Annals,* May, 1928, pp. 49-59.

8. Cf., H. E. Howe, "Trade Bodies Put Science to Work," *The Nation's Business,* February, 1928, p. 26.
9. Cf., Charles M. A. Stine, "Debunking Research," *The Nation's Business,* February, 1929, p. 218.
0. Cf., R. B. Von Kleinsmid, "To-day's Laboratory is To-morrow's Industry," *American Bankers Association Journal,* October, 1929, p. 345.
1. Cf., H. S. Person, "New Tendencies and Problems in Business Management," *Linking Science and Industry,* Henry C. Metcalf, Editor, The Williams & Wilkins Company, Baltimore, 1925, p. 27.
2. *Ibid.,* p. 28.
3. Quoted by R. B. Von Kleinsmid, "To-day's Laboratory is To-morrow's Industry," *American Bankers Association Journal,* Oct., 1929, p. 345.
4. *Ibid.,* p. 346.
5. Cf., Charles M. A. Stine, "Debunking Research," *The Nation's Business,* February, 1929, p. 218.
6. *Ibid.,* p. 215.
7. R. B. Von Kleinsmid, "To-day's Laboratory is To-morrow's Industry," *American Bankers Association Journal,* October, 1929, p. 416.

CHAPTER IX

1. Cf., Mitchell, *Business Cycles,* p. 163.
2. Cf., F. A. Fetter, *Modern Economic Problems,* The Century Company, New York, 1920, p. 97.
3. Cf., Marshall and Wiese, *Modern Business,* p. 321.
4. H. P. Willis and George W. Edwards, *Banking and Business,* Harper & Brothers, 1922, p. 307.
5. *Ibid.,* pp. 307-308.
6. Quoted by Roger W. Babson, "The Investment Trust Era," *The New York Herald Tribune,* Magazine Section, Sepember 29, 1929, p. 3.
7. Cf., Paul M. Atkins, "The General Management Investment Trust: How It Differs from Other Types," *The Annalist,* October 4, 1929, p. 639.
8. Marshall and Wiese, *Modern Business,* p. 323.
9. Cf., Taylor, *Making Goods and Making Money,* p. 212.
0. *Ibid.,* pp. 210-211.

11. Cf., Kenneth Goode, *Turning People into Gold*, Harper and Brothers, New York, 1929, p. 110.
12. Cf., Taylor, *Making Goods and Making Money*, p. 220.
13. *Ibid.*, p. 211.

CHAPTER X

1. Stuart Chase, *Your Money's Worth*, The Macmillan Company, New York, 1927, p. 26.
2. William T. Foster and Waddill Catchings, *Profits*, Houghton Mifflin Company, Boston, 1925, p. 61.
3. Cf., *Ibid.*, p. 57.
4. William T. Foster and Waddill Catchings, *Money*, Houghton Mifflin Company, Boston, 1925, p. 26.
5. Cf., Hoyt, *The Consumption of Wealth*, p. 4.
6. Cf., Paul T. Cherington, *The Consumer Looks at Advertising*, Harper & Brothers. 1928, p. 32.
7. Foster and Catchings, *Profits*, p. 60.
8. Cf., George Soule, *The Useful Art of Economics*, The Macmillan Company, New York, 1929, p. 96.
9. Foster and Catchings, *Profits*, p. 60.
10. Cf., Cherington, *The Consumer Looks at Advertising*, p. 44.
11. Cf., *Ibid.*, p. 51.
12. Chase, *Your Money's Worth*, p. 12.
13. Hartley Withers, *Poverty and Waste*, London, 1920, p. 19.
14. Kenneth Goode, *How to Turn People into Gold*, Harper & Brothers, 1929, p. 63.
15. *Ibid.*, p. 88.
16. Cf., Hoyt, *The Consumption of Wealth*, p. 258.
17. Cherington, *The Consumer Looks at Advertising*, p. 19.
18. Hoyt, *The Consumption of Wealth*, p. 162.
19. Mitchell, *Business Cycles*, p. 165.
20. Cf., *Ibid.*, pp. 165-166.
21. Cf., H. E. Irish, "Buying—The Neglected Science," *The Nation's Business*, Sept., 1926, pp. 34-36.

CHAPTER XI

1. Cf., Alvan T. Simonds, *Business Fundamentals*, p. 9.
2. Cf., Taylor, *Making Goods and Making Money*, p. 33.

3. Howard Lee McBain, "Law and Government," *Whither Mankind,* Charles A. Beard, Editor, p. 143.
4. Julius Klein, "Business," *Whither Mankind,* Charles A. Beard, Editor, p. 105.
5. Julius H. Barnes, "The Problems of Modern Business." A Speech before the Bankers' Club of New York. Printed in *Modern Speeches,* Homer D. Lindgren, Editor, F. S. Crofts & Co., New York, 1926, pp. 393-405.
6. Cf., Marshall and Wiese, *Modern Business,* p. 455.
7. Howard Lee McBain, "Law and Government," *Whither Mankind,* C. A. Beard, Editor, p. 148.
8. *Ibid.,* p. 150.
9. Cf., Thorp, *Economic Institutions,* p. 258.
10. Taylor, *Making Goods and Making Money,* p. 39.
11. Harold W. Faulkner, "The Development of the American System," *The Annals of the American Academy of Political and Social Science,* January, 1929, p. 17.
12. Cf., Stuart Chase, *Your Money's Worth,* p. 123.
13. Cf., Mitchell, *Business Cycles,* p. 168.
14. Cf., Taylor, *Making Goods and Making Money,* pp. 37-43.

CHAPTER XII

1. Cf., Harlow S. Person, "Basic Principles of Administration and of Management," *Scientific Foundations of Business Administration,* Henry C. Metcalf, Editor, p. 237.
2. *Ibid.*
3. Gerstenberg, *Principles of Business,* p. 193.
4. Cf., Harold H. Maynard and Walter C. Weidler, *An Introduction to Business,* The Ronald Press, New York, 1925, p. 161.
5. Cf., William B. Cornell, *Industrial Organization and Management,* The Ronald Press, New York, 1928, p. 36.
6. *Ibid.,* p. 40.
7. *Ibid.,* p. 277.
8. *Ibid.,* p. 279.
9. J. L. Nicholson and J. F. D. Rohrback, *Cost Accounting,* The Ronald Press, New York, 1920, p. 13.

10. Cf., Leon C. Marshall and Leverett S. Lyon, *Our Economic Organization,* The Macmillan Company, New York, 1927, p. 235.
11. Cornell, *Industrial Organization and Management,* p. 36.
12. *Ibid.,* p. 70.

CHAPTER XIII

1. Cf., Harold H. Maynard, Walter C. Weidler, and Theodore N. Beckman, *Principles of Marketing,* The Ronald Press, New York, 1927, p. 35.
2. Alfred Marshall, *Industry and Trade,* The Macmillan Company, London, 1919, p. 278.
3. Cf., Ralph Borsodi, *The Distribution Age,* D. Appleton & Co., New York, 1927, p. 26.
4. *Ibid.,* p. 27.
5. Cf., Paul D. Converse, *Marketing Methods and Policies,* Prentice-Hall, New Yark, 1924, p. 13.
6. *Ibid.*
7. Cf., Edmund Brown, *Marketing,* Harper & Brothers, New York, 1925, p. 13.
8. See Baer and Woodruff, *Commodity Exchanges,* Harper & Brothers, New York, 1929, for a clear and comprehensive description of future trading and of "hedging."
9. Cf., Brown, *Marketing,* pp. 13-15.
10. Cf., Maynard, Weidler, and Beckman, *Principles of Marketing,* p. 49.
11. Cf., Percival White and Walter Hayward, *Marketing Practice,* Doubleday, Page & Co., 1924, p. 266.
12. Cf., Maynard, Weidler, and Beckman, *Principles of Marketing,* p. 54.
13. Cf., White, *Business Management,* Henry Holt & Co., New York, 1926, p. 546.
14. Cf., Marshall and Lyon, *Our Economic Organization,* p. 366.
15. Cf., White and Hayward, *Marketing Practice,* p. 28.
16. Melvin T. Copeland, *Marketing Problems,* A. W. Shaw Company, Chicago, 1920, p. 8.
17. Cf., Maynard, Weidler, and Beckman, *Principles of Marketing,* p. 97.
18. *Ibid.,* p. 110.

19. Cf., Paul Cherington, "Getting at Facts Through a Survey," *Papers of the American Association of Advertising Agencies 1927*, The Ronald Press, New York, p. 158.
20. Percival White, *Scientific Marketing Management*, Harper & Brothers, New York, 1927, p. 102.
21. Cf., Harry R. Tosdal, *Principles of Personal Selling*, A. W. Shaw Company, 1925, p. 395.
22. *Ibid.*
23. *Ibid.*, p. 632.

CHAPTER XIV

1. Cf., Joseph French Johnson, *Organized Business Knowledge*, B. C. Forbes Publishing Company, New York, 1923, p. 59.
2. Gerstenberg, *Principles of Business*, New York, 1919, p. 127.
3. Johnson, *Organized Business Knowledge*, p. 48.
4. *Ibid.*, 49-50.
5. Cf., Marshall and Wiese, *Modern Business*, p. 333.
6. Cf., Percival White, *Business Management*, Henry Holt and Company, New York, p. 301.
7. Johnson, *Organized Business Knowledge*, pp. 52-53.
8. Cf., *Ibid.*, p. 54.
9. Cf., *Ibid.*, p. 58.
10. *Ibid.*, p. 60.
11. *Ibid.*, p. 61.
12. Cf., Gerstenberg, *Principles of Business*, p. 161.
13. Cf., Marshall and Wiese, *Modern Business*, p. 363.
14. Cf., White, *Business Management*, p. 366.
15. *Ibid.*, p. 368.
16. Cf., *Ibid.*, p. 373.
17. Arthur Henry Rosenkampff and William Carroll Wallace, *Bookkeeping Principles and Practice*, Prentice-Hall, Inc., New York, 1929, p. 393.
18. *Ibid.*, p. 389.
19. Johnson, *Organized Business Knowledge*, pp. 146-147.

CHAPTER XV

1. Baker Brownell, Editor, *Man and His World*, D. Van Nostrand Company, New York, 1929, Introduction to Volume VI, "Society To-morrow," p. 3.
2. *Ibid.*, p. 3.

3. George O. Squier, "The Amazing Years Ahead," *The Nation's Business*, January, 1929, p. 16.
4. Cf., Stuart Chase, "What Is Prosperity?" *The Nation*, October 23, 1929, p. 461.
5. Cf., Mazur, *American Prosperity*, p. 120.
6. Merle Thorpe, "Closets of the Future." Editorial *The Nation's Business*, November, 1929, p. 9.
7. Stuart Chase, "Consumers in the Modern World," *Man and His World*, Volume V, "Society Today," p. 167.
8. Mazur, *American Prosperity*, p. 118.
9. Cf., E. J. Kulas, "Produce—but Be Ready to Change," *The Nation's Business*, Jan., 1929, p. 144
10. Cf., W. E. Hotchkiss, "Business in the New Era," *Man and His World*, Volume V, "Society Today," p. 146.
11. James R. Nicholson, "Chain or Voluntary Chain? Grocery Stores Must Choose," *Printers' Ink Weekly*, October 24, 1929, pp. 164-166.
12. Paul T. Cherington, "The Distribution Census and Trends in Retailing," *The J. Walter Thompson News Bulletin*, October, 1929, p. 18.
13. James R. Nicholson, "Chain or Voluntary Chain Grocery Stores Must Choose," *Printers' Ink Weekly*, October 24, 1929, p. 166.
14. Cf., John T. Flynn, "Up Against the Chains," *Collier's*, April 27, 1929, p. 10.
15. Cf., Mazur, *American Prosperity*, p. 147.
16. R. S. Hecht, "The Great Web of Chain Banking," *The American Bankers Association Journal*, October, 1929, p. 307.
17. Cf., Trevor O. Hammond, "Group Banking in the Northwest," *The American Bankers Association Journal*, October, 1929, p. 316.
18. Taylor, *Making Goods and Making Money*, p. 24.
19. *Ibid.*, p. 26.
20. Carver and Lester, *This Economic World*, p. 141.
21. *Ibid.*, pp. 142-143.
22. *Ibid.*, p. 80.